

# **The Integration of Biology Content Lessons in the English Curriculum through Soft CLIL in a Colombian State School**

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## **2. CONCEPTUAL FRAMEWORK**

### **Introduction:**

The aim of this chapter is to explain the concepts that are present when implementing a series of Content and Language Integrated Learning (CLIL) units guided based on a dynamic bilingual education in a state school. These concepts are considered necessary when it is wanted to develop proficiency in a foreign language and, at the same time, through the lessons to teach content subjects. Firstly, it is relevant to explain the term Content and Language Integrated Learning (CLIL), which according to Frigols and Marsh (2008) is a dual-focus educational approach intrinsically integrated, where the topic or subject, and the language attempt to develop a special approach in the teaching process, in which the content subject is not taught in a target language but through it (Eurydice 2006:8). Secondly, it is proper to mention a first concept related to CLIL which is bilingualism. This concept has been defined by several authors based on different perspectives and components to reach bilingualism. This has caused discussion among scholars when trying to give a definition to the term. For this reason, bilingualism will be defined according to the contribution postulated by Baker (2006), Diebold (1964), and Garcia (2009), where the explanation goes from the language proficiency, passing through social and individual issues. Finally, the term bilingualism will be connected with the concept bilingual education, which will be explain

according to the contribution of Garcia (2009) and Baker (2006), where there are 2 different ideologies which characterized the bilingual education of the 21st century.

### **2.1. Content and Language Integrated Learning**

The challenges faced in the education of the 21<sup>st</sup> century, lead to discover new methodologies in order to guide the educational system through the demands of the society mediated by the context. The context, in which this project is guided, has shown a necessity of increasing students' proficiency in a foreign language, in this case, English. For the developing of this project, it was chosen a recent methodology, CLIL – Content and Language Integrated Learning, (Marsh. D; 1994). It states the learning of a content subject through the use of a second or foreign language where the student will improve both aspects.

It is considered that both, a content subject and a second/foreign language are learning complements of each other since the students will have the opportunity to use the skills that they learn in a second/foreign language in the moment. To explain this, when a student is part of an EFL class he or she will use the language when they consider they are good enough to use it; on the other hand, with CLIL, students should go beyond that obstacle and use the language to succeed on the subject and the linguistic part. According to Marsh (2001), CLIL aims to achieve a holistic development of learners, to form independence on students and to guide students towards becoming capable and motivated.



This methodology will be indeed a challenge for students of state schools who have had only traditional EFL class. The TKT - Teaching Knowledge Test, focused on CLIL in 2010, says that “the experience of learning subjects through the medium of a non-native language is more challenging and intensive as there is more exposure to the language and learners acquire knowledge and skills in different areas of the curriculum”. This statement states that if a student is instructed in a content subject such as biology in a foreign/second language he/she will develop his/her linguistic knowledge as well as content knowledge in a more holistic way.

CLIL is differentiated from approaches like Content Based Instruction in the way that CLIL aims to develop linguistic goals as well as to reach content knowledge while CBI is only focused on content knowledge. According to Marsh (2001), by implementing multi-aim method, there is balanced support between the language and the content in order to achieve the objectives. It means that through the implementation of this multi-aim method, both, the language and the content subjects are connected in order to develop student's linguistic goals as well as their content knowledge, which is main objective to achieve in this project. This achievement is also possible as students' confidence increases by being exposed to this methodology.

Coyle (1999), states that CLIL is not a standardized methodology to learn language or content knowledge. She says that depending on the context needs CLIL can be molded to fit into those needs. These CLIL possible variables can refer to content teachers having language items into their curriculum and also language teachers adding some content subject items into their lessons, or even by having projects in which some important content subjects will be chosen and combined with

language aspects. It is possible to notice then, how CLIL can be adapted to specific circumstances.

It is important to know that there are some aspects that should be considered in order to adapt CLIL to certain scenarios. Coyle (1991) postulates the 4C's of CLIL, this stands for: content, cognition, communication and culture. She states that through the integration of these aspects when teaching, it is possible to produce appropriate CLIL activities. First, content refers to the topic or topics that are going to be taught and what language should be considered to create the lesson. Second, cognition is relevant since one of the aims that CLIL has is to push the student linguistically and on the content knowledge, so the student should be encouraged to move on his/her current linguistic and academic level. Third, communication is considered as the interaction path, where students use the language learned in order to interact with others in a second language. Finally, culture is a factor that plays an important role on CLIL methodology as the language and the learner, which is considered as a user, are part of a community formed by more people. When the user knows how to be aware of others and knows how to contribute to the society he/she is being part of, it can be seen the cultural aspect at its best. It is noticed then that the 4C's are of great value when implementing CLIL as they are directly related to language learning and learning in general.

Keep in line with what Marsh says about the multi-aim method which is oriented to academic and linguistic knowledge, and what Coyle states about CLIL adaptability, it is possible to choose a main aim or purpose to achieve by implementing CLIL. This main focus can be the linguistic or the content knowledge aspects. If the aim is to develop student's academic knowledge focused content, it is considered as a type of CLIL

methodology called Hard CLIL. But if the aim is to develop student's language proficiency, it is considered as Soft CLIL. These two terms will be explained deeper in the following sections. Nonetheless, it is necessary to clarify that the aim of this project is to implement Soft CLIL methodology.

### **2.1.1 Hard CLIL**

When the teaching and learning are focused primarily on the subject content it is called Hard CLIL. This methodology is also known as content-driven or strong CLIL. The idea is not to give qualitative descriptions to the terms since both of them (hard and soft) have different aims but can have mutual cooperation. The University of Cambridge ESOL Examinations in its TKT (Teaching Knowledge Test) Glossary of CLIL (2009) defines Hard CLIL as "a type of partial immersion when almost half the curriculum or more is taught in a non-native language". Even if the aim of Hard CLIL is the subject content, linguistic aspects should be considered as it is important to know what language will be used in order to have a forecast of what the student will be able to produce. There should be a balance between the content and language given in each lesson.

### **2.1.2 Soft CLIL**

The University of Cambridge ESOL Examinations in its TKT Glossary of CLIL (2009), defines Soft CLIL as "teaching topics from the curriculum as part of a language course". It is said then, that the main agent is the language course which will take topics and procedures from the content subjects to be taught during the lessons. For this

methodology the English teacher should be aligned to the content subject(s) curricula and should know properly the topic that will be taught. So, the core and objective of the language-driven approach will be the language learning. This methodology was selected to be the focus of this project since in the local context language courses should evolve into something more challenging to improve students' language skills.

## **2.2. Bilingualism**

To define bilingualism, it is important to highlight the different perspectives postulated by different authors which have in common the definition of a bilingual person as someone with knowledge in two different languages (Diebold, 1964., and Bloomfield, 1933). However, it is relevant to consider deeper aspects to consider when defining the concept i.e. Proficiency in both languages, context in which the two languages are used, and age of the users.

Being proficient in a language makes reference to have certain domain when using certain language. Diebold (1964) uses the term incipient bilingualism to label a person that knows some words and phrases in a language different from the mother tongue. On the other hand, Bloomfield (1933) defined bilingualism as the native-like domain of both languages that an individual should have. These definitions of bilingualism are refuted by Baker (2006) for one being maximalist, which is Diebold definition, and the other minimalist, which is Bloomfield definition since there is not a concrete way to explain what to have a native-like control is. Also, related to the proficiency when using a language, Macnamara (1967) and Haugen (1969) defined bilingualism as the development of 4 skills: reading, listening, writing and speaking,

which are in continuous development in all moment. These abilities to use the language are conditioned, of course, at the ways, frequency and methods the individual uses to communicate and to interact with the language.

Different from the proficiency level of the individuals, where only it is considered the knowledge people have over the languages they use, it is relevant for a bilingual person to know how to use the language, making reference to the contexts where people are involved. Thiery (1978) stated that a person is considered bilingual when he/she is recognized socially and culturally as a member of two communities, and that bilingualism makes reference to the ability to be part of a community and communicate in two different languages (Hamers and Blanc; 2000). They also state that the native-like proficiency is not necessary to be bilingual due to the fact that being an individual is being at the same time part of a social group. This means that the use of a language varies according to a personal, interpersonal and a social level. It is possible to summarize these ideas saying that bilingual people are able to communicate what they want to communicate in both languages respecting the context where they are involved in.

As shown before, the perception of bilingualism is defined only taking into account individual people's characteristics. However, Baker (2006) emphasized a distinction between the bilingualism of an individual (individual bilingualism) and the bilingualism of a community or region (societal bilingualism).

### 2.2.1. Individual Bilingualism.

The scholar states the idea that a bilingual person is able to use both languages, but each language is used with different purposes in different domains (school, neighborhood, home). In this way, a person could use for instance, Spanish to speak with family and English to speak at school or with friends (DIGLOSIA). Moreover, an individual could speak in both languages, but the competence and the proficiency in one of those languages is less than in the other. That is what Baker (2006) called dominant bilingualism, and it is observed when the balance between L1 and L2 is not the same in terms of proficiency, and one language dominates the other in certain contexts. Additionally, there is other type of people that could be proficient at speaking and listening skills, but not with reading and writing. For that reason, Baker made emphasis in the distinction between the abilities a person has when using both languages and the use of the languages for different purposes, and in different contexts.

Baker (2006), suggested two dimensions to explain the abilities and skills an individual uses in two languages. These are:

	Oracy	Literacy
Receptive skills	Listening	Reading
Productive skills	Speaking	Writing

Baker dimension of individual bilingual skills.

Taking into account the chart, Baker suggests that it is not possible to label a person as monolingual or bilingual since people's abilities vary in the two languages. For instance, a person could be able to read and listen in one language, but is not able

to speak and write in that language. This is known as passive bilingualism since the individual is able to understand a second language, but is more difficult to produce communication by writing or talking.

These types of bilingualism mentioned before explain the characteristics of a bilingualism focused on the individual aspects, but now, it is necessary to explain the bilingualism of society or a region.

### **2.2.2. Societal bilingualism**

Ferguson (1959) and Fishman (1972, 1980) called diglossia to the presence of two or more languages that are in contact within a society. Returning to Baker's contribution, the language interaction is limited or conditioned by the situations and purposes in which the language user wants to use a determined language in certain scenarios. Neither L1 nor L2 are used in the same situations and interactions. For example, in San Andres islands (Colombia), their societal bilingualism prevails in Spanish and Creole where both languages are used for different purposes and in different domains. Thus, this people could use Creole at school and Spanish at home.

In that sense, the contexts where each language is acquired (home, school, work, etc.) determines what type of bilingualism is used. Then, societies are categorized in two different types of communities which are endogenous and exogenous communities. Thus, an endogenous community refers to a society that uses more than one language while an exogenous community refers to a society that does not have an additional language to be used. REFERENCIA TEORICA

The focus of this research, taking into consideration the type of bilingualism to be used, is to develop students' L2 by keeping and respecting their L1 (Garcia, 2009). This is related to what Valdés and Figueroa (1994) stated through the term elective bilingualism. This means that language users decide to be bilinguals by an individual decision, mediated by the necessity to become autonomous in their learning process, in order to achieve bilingualism by their own autonomy.

### **2.3. Bilingual Education**

In this section, a detailed explanation of the concept bilingual education will be provided according Garcia's (2009) and Baker's (2006) contribution. This serves as a guide to explain some traditional models postulated by Hornberger (1991), contrasting them with the different types of bilingual education postulated by Garcia (2009).

As bilingualism has multiple definitions according to the research of the authors in their theories, bilingual education also has diverse definitions which vary according to the necessities of the society.

Garcia (2009) provides a clear definition of the concept bilingual education, which is continuously expanding, and it is nowadays more complex than in the past decades. Few years ago, schools used to teach prestigious languages such as: French, English or German, to people with good monetary income. It means that the bilingual education was seen only as the addition of a powerful language to the mother tongue (Garcia 2009).



Baker (2006) defines the concept of bilingual education stating a distinction between 2 perspectives of bilingual education, according to institutional intentions. This distinction supports the bilingualism into classes attempting to add formation to children, and a bilingual education which is adapted since there are some minority language speakers in the classroom.

. Garcia (2009) explains that the bilingual education of the 21<sup>st</sup> century goes beyond adding one language into another as it was the concept of bilingualism in the 20<sup>th</sup> century. She explains that the bilingual education of this century is more than looking for the perfect balance in two languages. Today's education needs to be assumed as a Dynamic bilingual education in which each language turns in different directions in order to adapt themselves to the challenges and needs of the bilingual education of the 21<sup>st</sup> century.

### **2.3.1. Types of bilingual Education.**

One important definition to take into consideration is the one provided by Hornberger (1991). She differentiates both concepts (*model and types*), explaining that *model* is a wide category which is related to the goals, involving the respect for language, culture and society. On the other hand, *type* is related to specific teacher's and student's characteristics, and structural characteristics that involve the language curriculum and the language use in the classroom. In this sense, two different types of bilingual education will be defined, monoglossic and heteroglossic.

### **2.3.1.1. Monoglossic bilingualism**

In the 20<sup>th</sup> century, the perception of bilingual education was focused on the development of proficiency, in order to respond to the standards of bilingualism in society, whose main objective was to have diglossic community. As Garcia (2009) states, “the desired outcome was either proficiency in the two languages according to monolingual norms for both languages, or proficiency in the dominant language according to monolingual norms” (p, 115). According to this, the aim of this bilingual education framework is to become proficient either in two languages, learning each language separately. In this type, each language is evaluated according to the monolingual norms, which means or to become proficient only in the dominant language of the individual (student). According to this, there are two types of monoglotic bilingual education. These are: *subtractive and additive*.

#### **2.3.1.1.1. Subtractive**

Subtractive bilingual education is a framework that consists on language shift into a powerful language due to the fact that this type of bilingual education is used through instructions. In this sense, the individual at school is able to develop knowledge in the second language, and starts perceiving his/her bilingualism as a problem, which causes the loss of his/her own language. It is evidenced in individuals that are involved and assessed only in the second language at school, which causes that students perceive their native language as useless. In other words, the child speaks one language (first language), the school adds the second language to the child, and he/she ends up speaking only the language learned at school, losing his/her mother language.

According to this, the subtractive bilingual education only has monoculturalism as main goal, which will be exemplified in the following figure:

$$L1 + L2 - L1 = L2.$$

***Subtractive Bilingual Education Theoretical Framework.***

**2.3.1.1.2. Additive**

The second type of monoglossic bilingual education promotes children's bilingualism attempting to use two languages in a unified form. In this way, the second language is added to the first one according to two monolingual standards, which enriches the children's possibility to become bilinguals. In this sense, the child speaks one language (first language), the school adds the other language, and he/she ends speaking both languages adding the second language to the existent one. According to this, the additive bilingual education framework allows the biculturalism for language minorities, and it will be exemplified in the following figure:

$$L1 + L2 = L1 + L2.$$

***Additive Bilingual Education Theoretical Framework.***

**2.3.1.2. Heteroglossic**

This ideology emerges as a result of globalization in which bilingual education has shifted on people. Nowadays, people are becoming aware of the linguistic complexity of different contexts such as the East of Africa and the deaf community. This shift changes the people's perception about some context taking into consideration the adaptation to the globalization. Thus, multiple co-existing norms characterize the

bilingual speech in which the heteroglossic bilingual education ideology is competitive with the monoglossic bilingual education already existent. (Garcia 2009).

As some societies started the adaptation to globalization, and the linguistic changes it carries out, schools started to adjust the multilingualism into their bilingual educational system. In multilingualism the dominant language is not only taught or added to the individuals, but also minority languages are taken into consideration. In this sense, the bilingual educational system of these specific societies recognized the particular needs of individual bilinguals, and adapts these needs respecting majority and minority language needs. As a result of this, Garcia (2009) proposes two types bilingual education, which form part of the heteroglossic ideology. She proposes the recursive and the dynamic types of bilingual education.

#### **2.3.1.2.1 Recursive**

This framework has as main aim language revitalization. In this framework the educational system supports the possibility to recapture a language almost lost through school education (King 2001). In this sense, the vision of this theoretical framework is heteroglossic due to the fact that according to Garcia (2009), it promotes the biculturalism as groups attempt to reconstruct historically their cultures, but at the same time, these groups develop proficiency in the other language within they are immersed in.

The principal objective of the recursive bilingual education is the revitalization of a language almost lost, in which the bilingualism is not considered as the main goal.

### **2.3.1.2.2 Dynamic bilingual education**

According to Garcia (2009), the last type of the bilingual education framework is *dynamic*. This is characterized due to the language interaction support taking place in different modalities (multimodalities), which allows an interrelationship of the languages the children have. These multimodalities support the functional interrelationships in the children's education, not the separated functional allocation. In other words, the functional interrelationship between the two languages of the children, permits the use of each language according to different purposes, and necessities to deal with into the context the children are immerse. In view of this, the dynamic framework allows the creation of a multiculturalism, which is adapted into the bilingual educational system through an integral and continuum development of the two languages in the classroom.

According to (Garcia 2009) in this bilingual education type, bilingualism is an important concept, but is not the endpoint since it is only a vehicle to achieve plurilingualism, which is the main goal of this type of programs. It means that it is permitted the co-existence of different languages (minority or majority) in the classroom, which are used in certain moments of the lesson to develop both languages simultaneously.

As we have seen during this section, there are different perceptions of the concept bilingual education. One of them, and the most influent in the 21<sup>st</sup> century is the one provided by Garcia (2009), in which the conception of the bilingual education has changed during the two last centuries. She postulated two different ideologies to

characterize the bilingual education, which are monoglossic and heteroglossic, where each one of these ideologies is divided in two different theoretical frameworks. These frameworks are applicable according to the adaptation of the different societies to the globalization. According to these, in some societies it is accepted and applicable the first two frameworks (subtractive and additive), but in some others, this conception and ideology of a bilingual education is not applicable. In view of this, in this study it will be relevant to take into consideration the last of the frameworks postulated by this author. This consists on a dynamic perception of the bilingual education as this framework allows and respects the use of language minority and majority in the classroom. In other words, both languages co-exist and are used in certain moments of the lesson to develop both languages simultaneously.

### **3. LITERATURE REVIEW**

The area of teaching English as a Foreign Language to teenagers through a content subject, has been widely studied during the last two decades. It has been especially studied in the field of Content and Language Integrated Learning (CLIL), being bilingualism and bilingual education the most important issues to conduct a CLIL study. Some of the studies related to this area have been conducted by Henao and Ramirez (2014); and Linares and Pastrana (2013), which examine and analyze the implementation of CLIL in a Foreign Language Context. These works have been directed in schools located in a middle-socioeconomic area, of Spain and Colombia, with primary and secondary students, where formal instructions were provided in English. However, the focus of these studies differs since the first study was based on the improvement of teachers' professional development while the second study was

focused on students' pragmatic performance during the CLIL lessons. Each study will be further explained in this section.

Henao and Ramirez (2014) conducted a study to analyze the effects of the implementation of Content and Language Integrated Learning (CLIL) in a dynamic bilingual education program, in two public Colombian schools. They took into consideration the background knowledge of students. In order to collect the data, the authors implemented three different methods to analyze the efficiency of the CLIL lessons implemented by the teachers who form part of the program called CHANGE. The first data collection method was conducted through observation, where three observation formats were used, in order to gather information about teachers' attitudes and behaviors when implementing the CLIL lessons. The second data collection method was based on reflective logs. In this case, teachers at the end of each CLIL lesson reflect on their own performance, as well as on students' reactions, and things to improve. The third data collection method was carried out implementing interviews where, at the end of the implementation process, teachers share their experience during the program and provide thoughts to improve the project. This study concluded firstly, stating that content teachers need more training in L2 to have successful CLIL lessons, and at the same time English teachers need more training in content knowledge to get the same objective. Secondly, teachers present problems to identify when to use L1 and L2 during each lesson. Thirdly, it was proved that in order to have success in the project, students need to have background knowledge in the target language as well as in the content subject.

Linares and Pastrana (2013) directed a project to examine the students' pragmatic performance of communicative functions in CLIL classrooms. It was possible through the implementation of two different types of activities, which are group-work and whole-class discussions by using the Communicative Language Teaching approach. This study was implemented with 156 students of primary (from 2<sup>nd</sup> grade to 5<sup>th</sup> grade), and secondary (from 7<sup>th</sup> grade to 10<sup>th</sup> grade) of a school located in a middle-socioeconomic area of Madrid, Spain. In order to gather and analyze the data, each group was divided in four group-work and three whole-class discussion, where they received formal instructions in English about geography and history. Thus, the topics vary according to the content they have received previously in class. The study concluded that it is necessary for CLIL teachers to be aware of the organization of diverse activities, which allows students to use the target language according to different purposes. Moreover, this study shows that primary and secondary students performed an extensive diversity of different functions in group-work rather than in whole-class discussion.

The studies previously cited permit to evidence that if the students' context and needs are identify, they will develop their language skills as well as their content knowledge when they are exposed to CLIL methodology. It seems that CLIL based English instruction affects the way the students use English in the classroom since it goes beyond than only communication, but to think about the content topic by the use of the additional language. The findings of these works are aligned to Marsh's theory (2001), which states that CLIL methodology will help students' motivation to have bidirectional learning referring to the content and language. This can be supported by



selecting accurately activities that help students to be motivated, in order to face the regular content in a foreign language.

#### **4. JUSTIFICATION**

Researchers in the field of English Language Teaching are constantly exploring new methodologies and strategies to improve the practice of teaching. Throughout history, the methods used for language teaching have evolved from audiolingualism and grammar translation method, to Communicative Language Teaching CLT or Content and Language Integrated Learning CLIL, just to mention some. However, these new ideas and proposals are delayed or not considered at all in some countries or areas. As a result, bilingual education does not have the same impact in the countries that probably are still using old fashioned methodologies. During the last decades, according to Garcia (2009), bilingual education has been administered by the implementation of innovative methodologies such as the previously mentioned CLIL or CBI, while in many cases in public education, focused on our experience, methods such grammar translation is still implemented.

The minister of education has been changing the policies the students are expected to achieve in certain periods. This seems to be an obstacle for achieving the communicative competence postulated by the Ministry of Education in its national plan of bilingualism that has its requirements in *Estandares Basicos de Competencias en Lenguas Extranjeras Guia 22 (2006)* focused on 11<sup>th</sup> grade students and the goal of achieving B1 according to the CEFR. Eventually, the goals were not achieved and government changed its policies and program for *Colombia Very Well, 2025*. Nevertheless, the goal of bilingualism in Colombia is increasingly distant due to the

continuous implementation of traditional methods. In the last years, results in national academic knowledge tests like PISA test or *Pruebas SABER* evidence a non-significant improvement on the low results specifically, in the English language area. In this sense, it is important to change the perception of traditional instruction with the implementation of methodologies that will impact the language education and all its participants in Colombian context. That is why this study attempted to implement CLIL approach in order to contribute with the bilingualism in the region and to show possible alternatives for the bilingual instruction in public institutions.

CLIL approach has two different focuses which vary according to the aim expected to achieve in the implementation. In this sense, two different concepts emerge defined as hard and soft CLIL. Hard CLIL is defined according to the Teaching Knowledge Test (TKT) Glossary of CLIL (2009) as “a type of partial immersion when almost half the curriculum or more is taught in a non-native language”. In other words, content knowledge is developed through language and that content is still the main focus of the instruction. On the other hand, the focus of Soft CLIL is to add some content lessons into English curriculum, in this sense language is developed by adding content instruction into the English classes.

Even though CLIL has been implemented and conducted in several areas of Europe, in Colombia it has been considered mainly just in private schools due to substantial differences in resources, teachers' training and co-working skills. One of the CLIL projects conducted in public schools is called CHANGE. This study developed by Mansut and Ramirez (2014), focused on the development of Content lessons by training

teachers at the moment of implementing their lessons in a foreign language in two public state schools in Pereira, Colombia. CLIL may have two aims depending on the needs found in the context. It may be hard CLIL as occurred in the project CHANGE or SOFT CLIL as it was the purpose of the present study. Thus, the improvement of students' language proficiency through the reinforcement of content knowledge was the core of this project.

The results of this study attempted to contribute to the field of English language in teaching in public schools in the sense of showing evidence to reflect about the implementation of CLIL lessons in a public Colombian institution. The main focus was the improvement of the students English language proficiency through Biology. In this sense, researchers considered this content area rich in materials, and interesting topics for students. Moreover, this project will benefit the school and its curricula since the implementation of those CLIL units will enrich the institution with materials and lessons to be implemented in future projects on the same field. Thus, teachers will consider different methodologies that could improve the national statistics in language proficiency as well as they would develop their co-working skills among teachers.

## **5. OBJECTIVES**

### **5.1. TEACHING OBJECTIVES**

To report students' language learning through biology concepts.

- To foster cooperative working between Content and Language teachers of the public institution.
- To contribute with materials for the institution to be implemented in future lessons on the same field.

### **5.2. LEARNING OBJECTIVES**

To analyze the content knowledge learned on the biology class, to develop CLIL classes in order to increase the students' English language proficiency.

- To classify different types of vocabulary according to the topics
- To integrate vocabulary learned during the CLIL lessons related to Biology, with the previous knowledge on the same field.
- To apply communicative strategies to show understanding of the lessons
- To design and describe mind maps in order to summarize the understanding of the topics implemented.

## **6. Methodology**

### **6.1. Context**

This project has been conducted at a state school called “Institucion Educativa San Joaquin”, which is located in the city of Pereira, Colombia. The institution belongs to a low-middle socioeconomic level, which has different facilities such as: 13 rooms, 1 computer laboratory, 1 library; 1 physics, and 1 chemistry laboratory. The school’s pedagogical model has its bases on Vygotsky’s constructivism theory that promotes the integral growth of the student, taking into consideration the mental and physical development of the individual, who at the same time is part of a society. In the same line, the vision of this institution is to allow all the students access promoting acknowledgement to those students with special talents. Additionally, this institution has the goal of being recognized as one of the best public institutions of the city in the year 2019. On the other hand, the mission of the school is to offer all the educational levels emphasizing specifically in natural sciences and mathematics, promoting the development of ethical, social and cultural values.

Moreover, the school has a total number of 14 teachers. From these teachers, five of them are primary teachers and the other 9 are secondary teachers. On the other hand, the number of students varies from 30 to 40 students per classroom. There are few technological and pedagogical resources such as video projectors, audiovisual database, internet connection and updated computers. The school additionally, is a K-11 institution divided in primary and secondary levels.

The English curriculum is based on the development of students' communicative skills. This focus is aligned with the institutional model based on Vygotsky where interaction and collaborative working are highlighted. This English subject is taught from 1<sup>st</sup> to 11<sup>th</sup> grades, with an average of 3 hours per week. In primary level, the English subject does not have any specialized language teacher. Thus, it is guided for teachers from different areas. On the other hand, secondary levels receive English instruction by two teachers graduated from *Licenciatura en Lengua Inglesa* program in the *Universidad Tecnológica de Pereira*.

### **6.1.2. Participants**

This study was implemented with 8<sup>th</sup> graders one time per week until implementing six lessons. Each lesson had a range of time that varied from one to two hours. It is common for this institution to have two or three courses of the same grade (a8/8b/8c). In this sense, the project was conducted in the group 8°B, and the selection of the same was depending on mainly schedules looking for the one that matched the better with researchers' time. The amount of time these students have of English is 3 hours per week, and 2 hours of biology. The learners' ages varied in a range between 13 and 16 years old, and their role in this project did not vary from their regular duties and/or behaviors in the regular classes.

The other participants involved in this project were the English and biology teachers, which had the role to provide to the researchers the current topics students were developing each week. However, the most important contribution for this project was provided by the Biology teacher, who gave to the researchers the space of time to

implement, during her class, the reinforcement of the Biology content directed in English. Additionally the English teacher provided to the researchers meaningful information related to students' main interests, and behaviors towards the current language topics.

## **6.2. INSTRUCTIONAL DESIGN**

The main focus of this study was to carry out Soft CLIL procedures through each lesson in order to increase the student's language proficiency in English through the articulation with the biology content. The researchers contemplated that during the implementation of the lessons and along this study there were certain problems that could be faced, but for each of them, there was a possible solution to deal with them. Furthermore, some of the materials needed such as video projector and computer, were provided by the researchers; however, some others were provided by the institution, such as markers and board. Among other materials, it was considered the use of worksheets or study guides which were created by the researchers according to the lesson and context requirements.

### **6.2.1 Planning**

This project was implemented during 6 sessions. The aim of each implementation was focused on the reinforcement of the students' language skills as well as their knowledge in the content of the Biology subject. Nevertheless, there was an aim for each session which was the teaching of certain linguistic aspects covering a specific content topic. It was contemplated that during the execution of this project there would be possible problems, so possible solutions were formulated, for instance, lack of

classes due to extracurricular activities such as cultural days. Poor articulation between content and language teachers with the researchers, might be another issue. Low students' interest on the methodology implemented might result in inconvenient for the result of the study.

For these problems the anticipated solutions were: to learn as much as possible the content topics in order to have certain autonomy with teachers. Also, it was important to try to fulfill the aim of each lesson as it was crucial to take advantage of the time and space provided. It was relevant to monitor students' behavior towards the new methodology they were being exposed to. Additionally, elements such as stress and anxiety levels towards the lessons were recognized and managed by the implementation of effective teaching strategies.

For this implementation it was necessary to design material that follows CLIL approach requirements. It was properly mainstreamed with the content area of biology as well as it considered students' context, as well as cognitive and linguistic skills. For the design researchers needed a proper and constant articulation with the content teacher of the institution as well as the English teacher. Topics were exposed to researchers and possible strategies and recommendations were shared among participants. Collaborative working was essential for the development of effective lessons and material, so by having a reliable group of work, the time for developing the lessons was reduced and optimized. Resources for the developing of the whole study, and everything it implied, came directly from the researchers. The material designed was based on what authors' experts on the field like David Marsh, 2001; Do Coyle, 2007; and Peter Mehisto, 2012 state on designing material.



### **6.2.2. Procedures:**

The procedure implemented during this study was soft CLIL, which is a type of the CLIL approach. term postulated by Marsh (1994). This type of CLIL allows increasing the students English language proficiency through the implementation of some parts of a content subject, which was included into the English curriculum. Through the implementation of this procedure, emerged the possibility to implement the Engage Study and Activate method (ESA) stated by Harmer (2007). This is a methodology that helps the planning and implementation of lessons, engaging students before providing them the topic to be covered during each lesson. ESA method was included in the core methodology Soft CLIL since having students language improved as an aim, it was expected to reduce the use of the mother tongue among students. Which at the same time, increase their motivation to learn the language through engaging content activities.

By following ESA each lesson was narrowed to follow a similar structure that lead to achieve the aim of the lesson. A basic presentation of the procedure of a lesson will be exemplified further in this project.

### **6.2.3. Assessment:**

CLIL units and lessons were evaluated depending on its methodology focus. As this study aimed to develop language skills following a Soft CLIL focus, the main aspect evaluated in this study was the students' linguistics outcomes and performance on the English language during the implementation. However, evaluation periods were aligned to the Biology content topics students were currently on. In this sense, this is consistent

with what Myriam Met (1999) stated. She said that following a language driven (Soft CLIL) purpose it is not intended for students to master content; nevertheless, content cannot be excluded from assessment. On the contrary it should be a vehicle for students' communicative outcomes.

In the same line, students were assessed at the end of the study. However, when possible, students' performance during each lesson in the production activities were also assessed. These outcomes were measured through a designed criteria, where students' language proficiency was measured by the use of a final test. On the other hand, the performances that happened during the lessons had a set of rubrics, which were focused on certain aspects such as the speaking skill, and all what this skill includes. The rubrics served to this project as tools in order to measure students' proficiency in an objective. through the use of these rubrics, it was avoided the use of subjective scores since this rubric criteria was based on specific elements to be evaluated. This method was useful to evaluate classroom performances that requires deep analysis to see if the lesson aim was accomplished.

#### **6.2.4.Reflection stage:**

Each lesson implemented had a reflection at the end. The instrument in which this project reflected on, is called reflection IN action. Term that makes reference to a reflection in which a member of the study, who in this case is the observer/participant researcher, takes field notes as much as possible about the development of each lesson while it is being implemented, not at the end, otherwise it will not be a reflection in action, but on action. Schön (1983). Through this type of reflection, emerged the possibility to increase the researchers' professional growth in terms of solving

pedagogical issues faced during the implementation of the lessons. Moreover, and it helped the researchers to be prepared for the coming session. On these reflection stages, professional aspects were considered and aligned with students responses. It was important to evaluate if students' reactions were the expected ones and, if not, to take action for the next implementation. Professional development was contemplated during the whole project as well as students' responses and outcomes. Then, when the study was over, it was important to reflect on the positive and negative aspects evidenced through this process and to indicate if students' language proficiency was affected positively. Notwithstanding, reflection in action was during each lesson, in order to interpret concerning aspects as soon as possible to be treated for the following lesson. This method was also important as researchers had the possibility to find out aspects that were not considered previously.

By carrying out this study it was expected to develop on researchers aspects related to classroom management, material design and effective lesson planning. These features that are also part of professional development were part of the reflections, which will be discuss further in this project.

#### **6.2.5. Resources:**

In order to achieve the expected results in this study, it is important to take into consideration the type of materials and resources that were needed. These resources were mainly: a video projector, a computer, a board, realia, flashcards, markers, and worksheets. Most of them were used into each lesson, but it varied according to the activities expected to be implemented during each of them. In this sense, the computer and the video projector were implemented to use the technology into classes while

interacting showing images, sounds and videos, which activated the student's background knowledge besides interesting audiovisual elements created a better learning environment. The realia was used to increase the student's motivation while interacting with real objects on their environment related to the topics on review. And the use of worksheets helped to register the students' development of different activities . Some material will be provided by the institution, such as the markers and the board, while the other materials will be provided by the researchers, such as the flashcards, the computer, the video projector and the worksheets.

#### **6.2.6. Researcher's role:**

The current project was carried out by two researchers which were in charge of the implementation of the biology content lessons in the English class. One person took the role of observer/participant, which was the one who observed the classes while was taking notes immediately of detail information during the implementation. On the other hand, the second researcher was the one in charge of implementing the lesson. The materials such as flashcards and slides were created by the two researchers as well as the lesson planning. The researchers reflected on the notes took by the observer/participant in order to come out with the final results of this study.

## 7. IMPLEMENTATION STAGE

### 7.1 Reflection report focused on lesson 1

The following reflection of the first implementation of this project will be focused on three different aspects: professional growth, students' responses and linguistic outcomes. Firstly, it is relevant to start describing the professional growth achieved during this implementation, to then, continue describing the students' responses during the lesson, and the linguistic outcomes they achieved, which is focused on artifacts.

One of the relevant aspects regarding the professional growth during the lesson, was the creation and implementation of the lesson plan due to the fact that during the creation stage, the researchers searched for different activities and theory regarding CLIL as well as activities that allows the students learning styles. In this sense, the researchers increased their repertoire of activities enroll with the CLIL lessons. Moreover, through the implementation stage, the implementer create rapport with the students providing them a relaxing class atmosphere.

*Appendix 9.1. lesson plan 1: the excretory system.*

Other important aspect was the distribution improvement related to the time management provided in each activity. This improvement was evidenced during the whole lesson where the implementer researcher, constantly guided by the lesson plan, followed and measured the time expected in each activity. This correct distribution allowed the implementation of the wrap-up stage of the lesson plan, which was aligned with the learning aim of the lesson.

*Appendix 9.1.1. observation format 1: evidence.*

Secondly, regarding students' responses there were some strengths and challenges the implementer faced during the lesson. One of the strengths was the students' participation, which was evidenced during the whole lesson, specifically, in the brainstorming activity where learners provided ideas about the topic without the implementer elicitation. In the same line, other strength evidenced was the students' reaction against the implementation, where they showed a positive attitude enjoying the activities planned according to their multiple intelligences (Gardner, 1983).

On the other hand, there was a challenge, which was related to the students' tasks comprehension since the implementer researcher provided instructions using code switching, but at the moment of implementing these activities, a great amount of students did not follow the instructions correctly. This was evidenced in the pre-listening activity where students were asked to walk around the classroom while the teacher was reading aloud an article related to the topic "excretory system". When the teacher mentioned one of the words related to the topic, the students should stop on one of some papers previously distributed around the floor of the classroom. However, students did not follow instructions correctly, and they stopped on the papers each time the implementer said a word.

*Appendix 9.1. / 9.1.1. lesson plan 1 and observation format 1: evidence (does the students teacher give clear instructions...)*

A possible solution to this challenge, which would be meaningful to apply in future classes by the implementer, is to provide clear instructions step by step, and to

ask to students for understanding using strategies such as: asking them to explain the task step by step, asking students if the activity is a listening activity, or a writing or speaking one, or modeling to students each of the tasks' steps.

Finally, regarding the students' linguistic outcomes, there was evidenced of students' language development in the study and activate stages of the ESA methodology, postulated by Harmer (2006). The language development expectations were achieved but no exceeded since the researchers did not have the possibility to observe students before the implementation. For this reason, it was not possible to measure in a reliable way the students' language improvement in the first session. This will be measured in a reliable way in future implementations.

Regarding the assessment stage, it is considered taking into account some artifacts in order to measure students' progress in terms of language proficiency. In this stage, students were assessed through the development of a listening activity where they were asked to answer some true and false statements related to the topics "excretory system and possessive adjectives". The results of this assessment were positives since through this artifact, there is evidenced of the students' knowledge and comprehension of the topic. Nonetheless, as this is the first implementation, there is not possible to measure students' progress related to the English language proficiency. It will be possible to measure in future sessions comparing the different artifacts collected during the sessions of this project in order to observe students' progress.

*Appendix 9.1.2. Evidence of the implementation 1.*

**7.2. Reflection report focused on lesson 2**

The following reflection keeps the line of the set of implementation of this project and will be focused on three different aspects: professional growth, students' responses and linguistic outcomes.

Regarding the professional growth it is important to highlight the academic learning that the researchers are having in content matters. The weekly training with the biology teacher from the institution makes easier the integration of this content with the target language. However, it is a challenge that the team has to face since sometimes, at the moment of planning the activities, it results difficult to integrate the specific and current English topic i.e. possessive adjectives, with the content topic. This would lead to elaborate not integrated at all moments in the class where the practitioner teaches the linguistic topic as in a regular English class.

*Appendix 9.2. Lesson plan 2: the excretory system, listening aim.*

A different aspect to mention is the development of the activities and the students' participation and reaction towards the challenge they are facing. The planning of the different set of activities that have a stablished order, is being well received by the students that show willingness to participate, reinforce and learn the concepts given. As in the previous reflection the time management allows the implementer to fulfil the activities proposed in the lesson plan without major inconvenient.



As mentioned before, the students' responses so far have been satisfactory and without important issues that affect the development of the lesson. Their reaction towards this methodology and the way they are being pushed shows evidence that demonstrates how a student attitude towards a class might vary according to the input given. If we take into consideration Krashen's input theory then we realize that students in order not to get bored –few and very easy input- or stressed –hard to understand and analyze input- it is elemental to provide students with something they can manage and at the same time they can feel a challenge.

*Appendix 9.2.1. Observation format lesson 2: evidence.*

On the other side, we have to mention that since the focused group is a large group formed by 33 students. It is difficult to have the same reaction towards the lessons. We can evidence some frustration or low self-confidence at the moment of participating on certain activities. Also, we have noticed that some students rely on some classmates waiting for translation in order to understand. This might be something positive if we consider the ZPD postulated by Vygotsky, but in some cases it seems to be laziness of the students to go beyond their skills.

Last but not least, the different students' linguistic outcomes during this implementation showed us that regarding the linguistic and content topic these students have a broad knowledge of the different terms as well as the knowledge of the grammatical patterns in this case of possessive adjectives. This makes easier the introduction and development of the activities planned.

*Appendix 9.2 / 9.2.1. lesson plan 2 (activate stage).and observation format lesson 2: evidence.*

Regarding the evidences of these linguistic outcomes, it is important to state that the team will procure to focus a specific linguistic skill in each class. This case the aim was to work on reading skills. There results of the reading test show us the understanding of the definitions and their knowledge in content to do the correct match. However, they are still in the process and as long as the implementations go by, we can keep noticing different linguistic issues and possible improvements.

### **7.3. Reflection report focused on lesson 3**

This report will reflect the positive and negative aspects evidenced during the third implementation of this project. It will be guided following 3 aspects mentioned since the first reflective report, which are the professional growth, students' responses and linguistic outcomes.

Regarding the professional growth, there were two notorious positive aspects. One of them, was the adaptation of CLIL content in order to review the English topic through biology, which in this case was easier than in previous lessons. The previous classes, it was hard to find a way to connect the English topic into the Biology content topic due to the types of topics. In this sense, the co-relation between those two topics did not allow a coherent explanation, what increased the amount of time searching the way to integrate both topics in a coherent way, what at the same time was time consuming for the researchers. However, during this third implementation it was easier to connect those topics due to their types, which allowed a coherent explanation and

reduced the time to find the way to co-relate them. Therefore, it was possible to conclude that not all the English topics have a coherent relation with all the Biology content topics. Some of them are easier to connect between each other, but some others do not allow the connection in a reliable way.

*appendix 9.3 / 9.3.1. Lesson plan 3: DNA and scientific thinking-reading aim, and observation format lesson 3: evidence.*

The other positive aspect, regarding the professional growth, is related to the material adaptation. The researchers adapted a video related to the universe and the human being in order to introduce biology content vocabulary implicitly. It allowed students to understand the meaning and the uses of that vocabulary, what facilitated the explanation of the Biology topic. In the same line, the adaptation of some copies related to the topic, expanded students' vocabulary related to Biology content. However, it did not expand pertinent vocabulary to be used in real daily situations.

*Appendix 9.3.1. Observation format lesson 3: evidence focused on the introductory stage.*

On the other hand, there was evidenced a negative aspect during this implementation, which is related to institutional limitations. Specifically, the institutional limitation evidenced was the reduction of the time for the lesson (length of the class), which was expected to be 60 minutes, but it started 8 minutes late. For this reason, the implementer should avoid the implementation of the warming up activity, what caused a reduction in students' participation during the lesson.

A possible alternative to solve the problematic stated before and to do not face this negative aspect in future classes, is to have a plan b in order to accomplish the

three stages (Engage, Study and Activate) of the procedure postulated by Harmer, 2006. A possible plan B, should be to reduce the time of each activity in order to implement all the stages of the ESA procedure.

*Appendix 9.3. Lesson plan 3: DNA and scientific thinking-reading aim*

Secondly, taking into consideration the students' responses, it was evidenced a positive students' attitude towards the integration of English topics into the Biology class. Students were committed with the lesson, developing the activities postulated by the implementer, and asking for help when they did not understand something related to the topic. This proved the students' interest towards the lesson, being thoughtful at the moment of connecting the previous knowledge with the new ones related to the Biology content. Nonetheless, their participation was less than in previous classes. Specifically while interacting in front of the rest of the class. It makes reference to what Alexander Guiora, 1991, stated with the language Ego Theory, which says that after puberty, people adapt a defensive mechanism to protect their identity what difficult the learning of a Second or Foreign Language.

*Appendix 9.3.1 / 9.3.2. Observation format lesson 3. Evidence, and evidence of the implementation 3.*

A possible solution to this situation, that should be meaning to implement in future classes, is to divide the group in small groups in order to allow students' participation and interaction. Using this strategy, students will be more confident to speak without inhibition, and they will not feel afraid to commit mistakes.

Finally, regarding the students' linguistic outcomes, there was evidenced of students' improvement in terms of the reading skill, what was the main skill in the lesson. Students understood the way to use the scanning strategy in order to extract meaningful information from the texts, and they implemented it answering some scanning questions based on the cell parts during a reading activity. Nevertheless, the assume knowledge related to the English topic was not so clear to students. They were confused while developing a fill in the gaps activity related to the English topic "comparatives". In the same line, as the length of the class was 52 minutes, the students' progress related to the English topic was no evidence. For this reason, students did not exceeded the researcher's expectation about their previous knowledge focused on the English topic, nor the expectation about the language learning, but they exceeded the researchers' expectation about the Biology Content topic.

*Appendix 9.3.2. Evidence of the implementation 3.*

#### **7.4. Reflection report focused on lesson 4**

This reflection keeps in line with the previous reflective work. The researchers will analyze the same aspects regarding the professional growth, students' responses and linguistic outcomes. Also, the team will highlight that this is the second class where students are working with the set of worksheets previously handled.

Respecting the professional growth, it is important to mention the good responses coming from students. This make the implementer and observer have more confidence and to have a better performance of the lesson. The setting up of the different activities become more effective and the challenge for students is still present.

The integration of the content and language on their specific topics is still an issue that is why students have been working on the set of worksheets taken from a specialized web site. Furthermore, to keep working on the current English topic in certain moments of the lesson some activities are designed to focus students in the linguistic topic in this case comparatives and superlatives.

*Appendix 9.4. / 9.4.1. Lesson 4. DNA and scientific thinking-writing/reading aim, and observation format of the lesson 4.*

Regarding the students' responses it is noticeable how they keep a general interest and good attitude towards the lesson even if they feel more confident in front of the team and in consequence some disciplinary issues are evident in some moments of the class. There is nothing that really affects the flow of the lesson and talks aloud or loss of focus are corrected by the in service teacher or the implementer. Towards the tasks proposed for this lesson; we could notice the lack of reading and writing strategies even in L1 made that students take more time and explanation to understand the activity. They were working in groups and most of these groups did the task as asked. These students keep showing commitment and responsibility for this set of lessons, which is a positive aspect to remark.

*Appendix 9.4.1. Observation format of the lesson 4. Evidence.*

The specific skill to analyze the linguistic outcomes for this class was writing, where students also had to do use reading skills. As stated before, this was a challenge for students as the unknown vocabulary previously explained made more difficult the understanding of the general task. Additionally, the use of critical thinking in order to

organize a similar text based on the model previously presented took more time than the expected. However; students identified the parts of the text that corresponded to each heading. The time designed for this lesson was an important issue since there was not enough time for students to complete the last task and to show substantial evidence of linguistic production.

*Appendix 9.4.2. Evidence of the implementation 4 (Assessing students' reading comprehension).*

### **7.5. Reflection report focused on lesson 5**

This reflection will show the positive and negative aspects evidenced during the fifth implementation of this project. It will be reported taking into account the professional growth, the students' responses, and the linguistic outcomes.

Concerning the professional growth, there were 2 positives aspects. The creation and adaptation of meaningful material to develop the class with a correct pace, and the time management when measuring the time for each activity in order to achieve the objectives expected.

*Appendix 9.5. Lesson plan 5: DNA and scientific thinking-speaking/reading aim.*

On the other hand there was evidence a negative aspect to take into consideration related to classroom management, which was the checking for students. Although the activities' explanation was good, there was not evidenced of any checking instruction technique provided by the implementer.

Regarding the students' responses, it was evidenced an active students' participation in the activities implemented during the lesson, specifically during the

activities that involved movements and critical thinking. Students were committed with the class, providing their own opinions about the topic and their attitude towards and participating collectively in a group activity. This proof the students' interest to the integration and implementation of this project.

Nonetheless, as the instructions to develop some of the activities were provided, but they were not checked, some of students did not followed neither comprehend them and they felt frustrated when participating in these activities.

*Appendix 9.5.1. Observation format of the lesson 5.*

A possible solution to this problem, will be to implement different strategies to check students' comprehension in order to avoid the anxiety and frustration in students while developing an activity.

Finally, taking into account the student's linguistic outcomes, there was evidenced of students' improvement in terms of speaking and reading skills. Students comprehend the way to use the comparatives and the superlatives in order to describe some cell parts, and it was evidenced during the wrap-up stage. This proof that students comprehend the topic covered during the last two lessons, but they have a confusion about when use the comparatives and when use the superlatives. In this sense, students full the researchers' expectations in terms of language proficiency, but they did not exceed it. Nonetheless, students exceeded those expectations in terms of biology content knowledge.

*Appendix 9.5.1. Observation format 5. Evidence.*



## **8. RESULTS**

For the analysis of the data gathered through this project the researchers focused on the three common aspects present in the set of reflections which are professional growth, students' responses and linguistic outcomes part of the teaching-learning process. By analyzing these aspects the researches can reflect on possible results of the project. For this set of reflections it was used reflection IN and ON action stated by Schön, 1983. Moreover, the assessment component was measure focused on the students English language proficiency and the Biology content knowledge. However, as the main focused of this project was the implementation of Soft CLIL, the most relevant aspect in the assessment stage was the students' improvement related to their English language proficiency. In this sense, the assessment stage provided different artifacts that are evidence of the implementation and the development of this project.

### **8.1 Professional growth and teaching skills**

Regarding the professional growth, the implementation of CLIL approach with 8<sup>th</sup> graders, provided to the researchers the possibility to increase their repertoire of activities in order to engage and motivate students through the learning process. Moreover, the implementer increased his ability to create rapport with students providing them a relaxing atmosphere, and providing them spaces to participate during the class. In the same line, the participant/observer increased his skills to reflect on the classes observed in an objective way.

### ***Cooperation***

Another important aspect to mention is the commitment showed by both the English and biology teachers from the institutions towards the project and the researchers. The constant updates and suggestions given by the English teacher were fundamental in the planning of the lessons. On the other side, the weekly training provided by the biology teacher on each topic made researchers' work easier. And the time, space and autonomy provided this teacher made possible the most natural environment for the development of the project.

### ***Issues***

Nevertheless, this project faced some issues especially due to institutional matters such as two strikes and one implementation session of less than 45 minutes. This resulted exceeding the deadline expected to implement. Nonetheless, this was an anticipated problem the researchers had taken into consideration.

## **8.2 Positive students' responses**

Regarding the students' responses, during the implementation of the lessons, it was evidenced a positive students' attitude towards the integration of English topics into the Biology class. Students showed commitment with the topics and tasks by developing the activities postulated by the implementer, and asking for help when they did not understand something related to the topic. This proved the students' interest towards

the project, being thoughtful at the moment of connecting the previous knowledge with the new ones related to the Biology content.

### ***Issues***

It is important to highlight their commitment with the different activities proposed, and their attitude towards the challenge faced when they encounter themselves with difficult topics, words or tasks. As this was a 33 students group, it is difficult to find the same reaction and responses in the whole group. It was evidenced high stress situations, reaching for moments the disinterest on the lesson. Due to the short time provided the implementer tried in some cases to motivate those students and get them back to the topic; however, the main focus was to end the lesson fulfilling what was planned with the less disciplinary issues as possible.

### **8.3 Students' linguistic outcomes**

One of the most relevant aspects was that students felt comfortable with the reinforcement of both, content and English topics. For instance, in the first two classes, they showed a proper general knowledge about possessive adjectives making easier the development of the lesson and optimizing the time for the tasks. This is the result of a proper articulation between the English teacher and the researchers. As shown in the different artifacts provided above, students made use of their different skills and knowledge learnt in their L1 biology class and remembered several aspects of the English topic.

The implementation strategies of the researchers on one skill based lesson made easier the analysis and observation of the different linguistic outcomes. Through this process, the 4 linguistic skills (writing, reading, listening and speaking) were the focus of each lesson. As evidenced in the second lesson where the listening test took place or the last lesson in which there was a speaking activity to contrast and compare.

### ***Assessment***

The students did a summative assessment at the end of the project that contained the three linguistic topics seen during the project time (possessive adjectives and comparatives and superlatives) and the two content biology topics (excretory system and DNA and scientific thinking). The set of exercises on the assessment paper were similar to the ones previously worked during the implementations (fill in the gaps, multiple choices, completing a statement).

### ***Issues***

The main issues that were evidenced when grading the assessment was that according the institutional English schedule, the students were supposed to work on comparatives and superlatives; however, in the day of the assessment the English teacher mentioned that they never had the time and possibility to work on it. This meant that the students faced that part of the assessment just with the few explanations given by the implementer in two of the lessons.

## **9. APENDIXES**

### **9.1. Lesson plan 1 The excretory system.**

**School:** San Joaquin School.

**Grade:** 8<sup>th</sup> B grade

**Class N°:** 1.

**Date:** Wednesday April 20<sup>th</sup> 2016

**Schedule:** 2:30 – 3:30 pm.

**Number of students:** 34 students

**Vocabulary for the first lesson CLIL Project:**

Kidneys, excretion, bladder, excretory system, bean form, ureter, urethra.

**English and biology topics:**

- Possessive adjectives.
- Excretory system.

**Standards:**

**General:** Leo y comprendo textos narrativos y descriptivos o narraciones y descripciones de diferentes fuentes sobre temas que me son familiares, y comprendo textos argumentativos cortos y sencillos.

**Specifics**

**Listening:** Infiero información específica a partir de un texto oral.

**Speaking:** Interactúo con mis compañeros y profesor para tomar decisiones sobre temas específicos que conozco.

**Reading:** Identifico relaciones de significado expresadas en textos sobre temas que me son familiares.

**Writing:** Contesto, en forma escrita, preguntas relacionadas con textos que he leído.

**Indicadores de logros:**

- To recognize the parts that form the excretory system.
- Describe the parts of the excretory system using possessive adjectives.

**Learning aim:** when asked in a listening comprehension activity, Ss. will be able to complete a questionnaire related to true and false statements without errors.

### Assumed knowledge:

- possessives in first, and third person (singular and plural)
- Verb to have in first and third person.
- Verb to be in first and third person.
- Vocabulary related to the excretory system in Spanish.

**Materials:** video projector, pc, board, flashcards, worksheet (fill in the blank activity), markers.

**Example of worksheet:** **our** excretory system has 2 kidneys,... / **his** excretory system has a bladder.

Procedure: ESA (Engage Study and Activate).

### 4 Cs

Content	The Excretory System
Communication	Language of description in order to mention the parts of the excretory system using possessive adjectives. Example: our excretory system has 2 kidneys... / <b>his</b> excretory system has a bladder.
Cognition	Understanding the location of the excretory system in the human body, and each of the organs that are part of it,
Culture	Learners can describe the excretory system of different students on their classroom.

### Activities

		Anticipated problem and solution.	Materials
Warm-up activity (clapping activity). Engage: 3:00 – 3:09 pm	Description: in this activity, T. will group Ss. in circle. T. will explain a TPR activity, where Ss. will clap 2 times on their legs and to time on their hand. T. will provide them a topic, such as fruits or animals, and	If Ss. do not understand what the activity is about, T. will model the activity first.	

	Ss. will say different vocabulary related to the topic.		
study / presentation of the topic 3:10 – 3:20 pm	T. starts the class showing Ss. different pictures about the topic to be covered during the class, which is focused on the excretory system and all its organs (vocabulary introduction). Then, Ss. will practice developing a matching activity, where they will match the name of the organ, with the correct image.	If the video projector does not work T. will show to Ss. the images that represent the new vocabulary using flashcards.	Pc, video projector Worksheet for the matching activity.
Study /pre-listening activity 3:21 – 3:40 pm	T. explains the new grammatical patter, which is focused on possessive adjectives (his excretory system has 2 kidneys). Ss. will practice playing a game that serves as a pre-listening activity. In this activity, T. will put different papers on the floor around the classroom. T. will read aloud the excretory system process. Each time Ss. will listen a word related to one of the organs previously explained, Ss. will stop at one of the papers. The S. that do not stop in one of those papers, will sit down of his/her chair.	If Ss. do not understand what the activity is about, T. will model the activity step by step.	Pieces of papers, video projector, pc, etc.
Study /activate Listening activity 3:41 – 3:50	Ss. will listen a conversation between two people. This conversation will be repeated 3 times. The first time, they will catch its general idea. The second time, and the third time, they will answer some comprehensive questions (Ss. the listening will be provide by the T.).		Comprehensive questions.
Study / activate pos-listening activity. 3:51 – 4:00	Post-listening activity: Ss. will answer some true and false statements postulated by the teacher in order to check	If Ss. do not understand the reading, T. will read it aloud,	

	listening comprehension. Then, group feedback will be provided at the end of the activity.	and will explain it.	
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### 9.1.1. Observation format lesson 1.

**Class:** 1 excretory system **No of learners:** 34 students

**Age of learners:** from 13 to 16

**Date:** Wednesday, April 20<sup>th</sup> **Length of class:** 60 minutes.

**Name of the school:** San Joaquin School

**Aim of the lesson:** when asked in a listening comprehension activity, Ss. will be able to complete a questionnaire related to true and false statements without errors.

**Observer's name:** Bryan Steven Parra Serna.

**Pre-service teacher observed:** Cristian David Bernal.

CRITERIA	YES	NO	NA	EVIDENCES
CLASS STAGES	X			The teacher introduced the topic providing clear instructions about the excretory system. He was prepared anticipating the vocabulary and the topic the students have covered during previous biology classes.
Does the student-teacher lead the learners into the topic of the lesson by a clear introduction?				
Does the student-teacher model the task/activities that learners will do during the practice stage?	X			The student- teacher served as a model using his body, and good pronunciation at the moment of explaining the activities to implement during the implementation. However, the checking instructions were used asking in general if the students understand what the topic was about.
Does the student-teacher encourage the learners to recall what they learnt in previous lesson(s)?	X			The student-teacher encouraged students eliciting them to participate in a brainstorming activity showing to students some images about the excretory system. In this sense, he activated students' background knowledge about the topic.
Does the student-teacher give clear instructions for tasks/activities to the learners?		x		Instructions were provided by the student-teacher using code switching (Spanish / English). However, the instructions were checked asking in general for understanding.
Are the teaching resources well prepared and helpful?	x			Teaching resources were well prepared following a correct sequence in order to present the topic, study it and obtain students production. The video projector



				engaged students, and allowed students participation.
Does the student-teacher check learners' comprehension of the new topic of the lesson?	x			Students comprehension of the lesson was check at the end of the lesson in the activate stage. It was measure through the development of some true and false statements. Nevertheless, it was not enough measurable students' comprehension of the topic through the true and false statement activity.
Do learners participate actively in the class?	x			80% of the students participate actively answering questions and developing the activities in a correct way. However, some students were not so participative, and do not follow correctly the instructions to develop some of the tasks during the lesson.
Are ground rules clearly established?			X	During the lesson, the time for the implementation was not enough to stablish clearly the ground rules.
Are the stages well-paced?	x			Each of the stages was sequentially implemented following the ESA methodology postulated by Harmer (2006). Therefore, T. introduced the topic, and directed the classes step by step guided by the lesson plan in order to achieve the learning aim.
Does the student-teacher manage time appropriately?	x			The time management was appropriately used given the fact that the learning aim was achieve satisfactorily during the time expected.
Does the student-teacher provide enough time for the learners to participate?	x			The teacher allowed students participation providing them some spaces to discuss and reflect about the topic.
Does the student teacher use different strategies to grouping learners?			X	During the lesson, there were not implemented any grouping technique.
Does the student-teacher manage disruptive behavior appropriately?			X	There were not presented any case of disruptive behavior during the lesson.
Are the standards to teach English appropriately included in the lesson planning?	x			The lesson plan included the general standard as well as the specific ones focused on each of the skills.
Do learners show progress in the language learning process?	x			Learners evidenced progress regarding the language learning process in terms of the topic possessive adjectives. Nevertheless, as the student-teacher did not have the possibility to observe students before the

				implementation, this progress is not reliable due to this is the first implementation so far.
Does the student-teacher provide a relaxing atmosphere to his class?	x			The student-teacher interacted with the students pricing them saying good expressions (well done, nice job, really good, nice try, etc.), in order to create a good atmosphere and good rapport with the students.
Does the student-teacher use strategies to fulfill the learners needs based on their learning styles?	x			Most of the activities implemented during the lesson were created focused on students' needs related to their learning styles. In this sense, the activities allows students learning through their learning style (pre-listening activity, listening activity, flashcards description, warm-up activity using TPR, etc.).
Do students react positively to the integration of biology content lessons in English?	x			At the beginning, the integration of Biology content lessons using English was strange for them. Then, the students were feeling more comfortable during the class, showing a positive reaction about it participating actively during the implementation.
Do students filled the student-teacher's expectations focused on the learners' language proficiency?	x			Students filled the student-teacher's expectations without exceeding these expectations since they have the expected level of English language proficiency according to the "estándares Basicos de Competencias Extranjeras guía 22" (2006).

### 9.1.2. Evidence of the implementation 1.



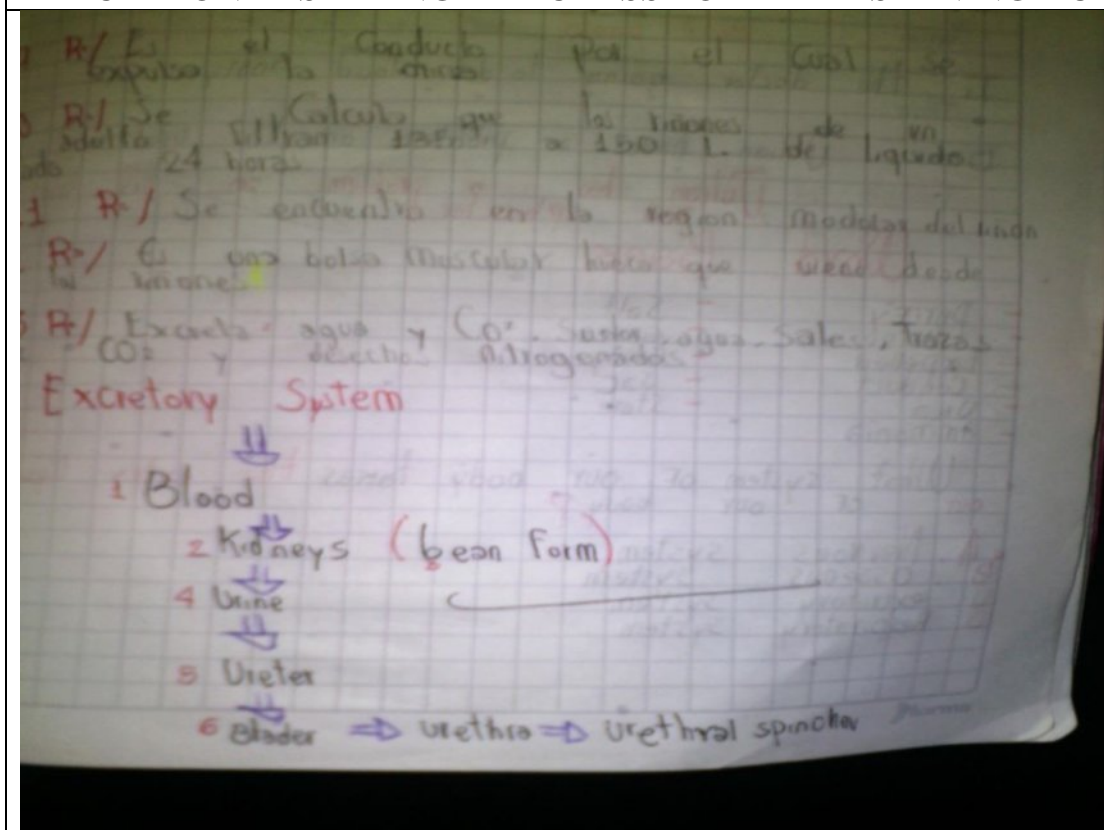
**STUDENTS ATTENDING AT THE EXPLANATION**



**PRACTITIONER EXPLAINING THE TRUE OR FALSE TASK**



PRACTITIONER SETTING THE CLASS FOR THE LISTENING ACTIVITY



WORKING ON CLASS EVIDENCED

These artifacts serve as evidence gathered during the implementation number 1. This is connected with the lesson plan and the observation format in appendix number 9.1.

## **9.2 Lesson 2. The excretory system-listening aim.**

**School:** San Joaquin School.

**Grade:** 8<sup>th</sup> A grade

**Date:** Wednesday April 27<sup>th</sup> 2016

**Schedule:** 2:30 – 3:30 pm.

**Number of students:** 34 students

**Vocabulary for the first lesson CLIL Project:**

Kidneys, excretion, bladder, excretory system, bean form, ureter, urethra.

**English and biology topics:**

- Possessive adjectives.
- Excretory system.

**Standards:**

**General:** Leo y comprendo textos narrativos y descriptivos o narraciones y descripciones de diferentes fuentes sobre temas que me son familiares, y comprendo textos argumentativos cortos y sencillos.

**Specifics:**

**Listening:** Infiero información específica a partir de un texto oral.

**Speaking:** Interactúo con mis compañeros y profesor para tomar decisiones sobre temas específicos que conozco.

**Reading:** Identifico relaciones de significado expresadas en textos sobre temas que me son familiares.

**Writing:** Contesto, en forma escrita, preguntas relacionadas con textos que he leído.

**Indicadores de logros:**

- To recognize the parts that form the excretory system.
- Describe the parts of the excretory system using possessive adjectives.

**Learning aim:** when asked in a listening comprehension activity, Ss. will be able to complete a questionnaire related to true and false statements without errors.

**Assumed knowledge:**

- Possessives in first, and third person (singular and plural)
- Verb to have in first and third person.
- Verb to be in first and third person.

- Vocabulary related to the excretory system in Spanish.

**Materials:** video projector, pc, board, flashcards, worksheet (fill in the blank activity), markers.

**Example of worksheet:** **our** excretory system has 2 kidneys,... / **his** excretory system has a bladder.

Procedure: ESA (Engage Study and Activate).

4 Cs

<b><u>Content:</u></b> Excretory system.
<b><u>Communication:</u></b> The language of possessive adjectives in order to demonstrate possession or ownership of objects in the context that will be processed by the excretory system.
<b><u>Cognition:</u></b> Reviewing previous vocabulary from the biology class, recognizing the parts of the excretory system and explaining their purposes.
<b><u>Culture:</u></b> Learners can find out different diseases that affect the excretory system and their impact in Colombia and the rest of the world and the life quality of the people.

Activities:

Procedure	Activity	Anticipated problem and solution.
Warm-up activity  Wheel of greets  2:30-2:45	Ss will form two circles, one inside the other and facing each other. T will command left or right moves that the inside circle should follow. Then T will command Ss to greet the partner in front in a specific way (hips, back, forehead)	T should model all the commands and make a review of the possible greetings forms.
Introduction Word bank 2:45-2:55	T will present the key words that will be part of the lesson. Ss have to write them down.	T has to explain and make sure that the whole class understands the words.
Study/activate Listening	T will present the questions that students will have to solve based on a video about the excretory system that will be showed twice.	

2:45 –3:15 pm	<p>These are multiple choice questions and T will have to check through each question and see if students understand the sentences and options.</p> <p>Then to check the answers Ss will participate in a hot potatoes activity to go in front and answer each question.</p>	
Engage Writing activity 3:15 – 3:25 pm	<p>T will show an incomplete mind map to be filled in. Ss will have to analyze the given parts and understand what should go on the empty spaces.</p> <p>This will be assigned as homework</p>	
Study /activate reading  ASSESSMENT activity 3:25 – 4:00	T will present five definitions and functions of the organs of the excretory system. Ss will be organized in rows as this is an assessment task. Ss will have the rest of the class time to write the definitions, analyze them and write down what organ each definition refers to.	

## 9.2.1 Observation format lesson 2.

**Class: 2**    **No of learners:** 25 students

**Age of learners:** from 13 to 16

**Date:** Wednesday, April 27<sup>th</sup>    **Length of class:** 45 minutes

**Name of the school:** San Joaquin School

**Aim of the lesson:** When asked in a listening comprehension activity, Ss. will be able to complete a questionnaire related to true and false statements without errors.

**Observer's name:** Bryan Steven Parra Serna.

**Pre-service teacher observed:** Cristian David Bernal.

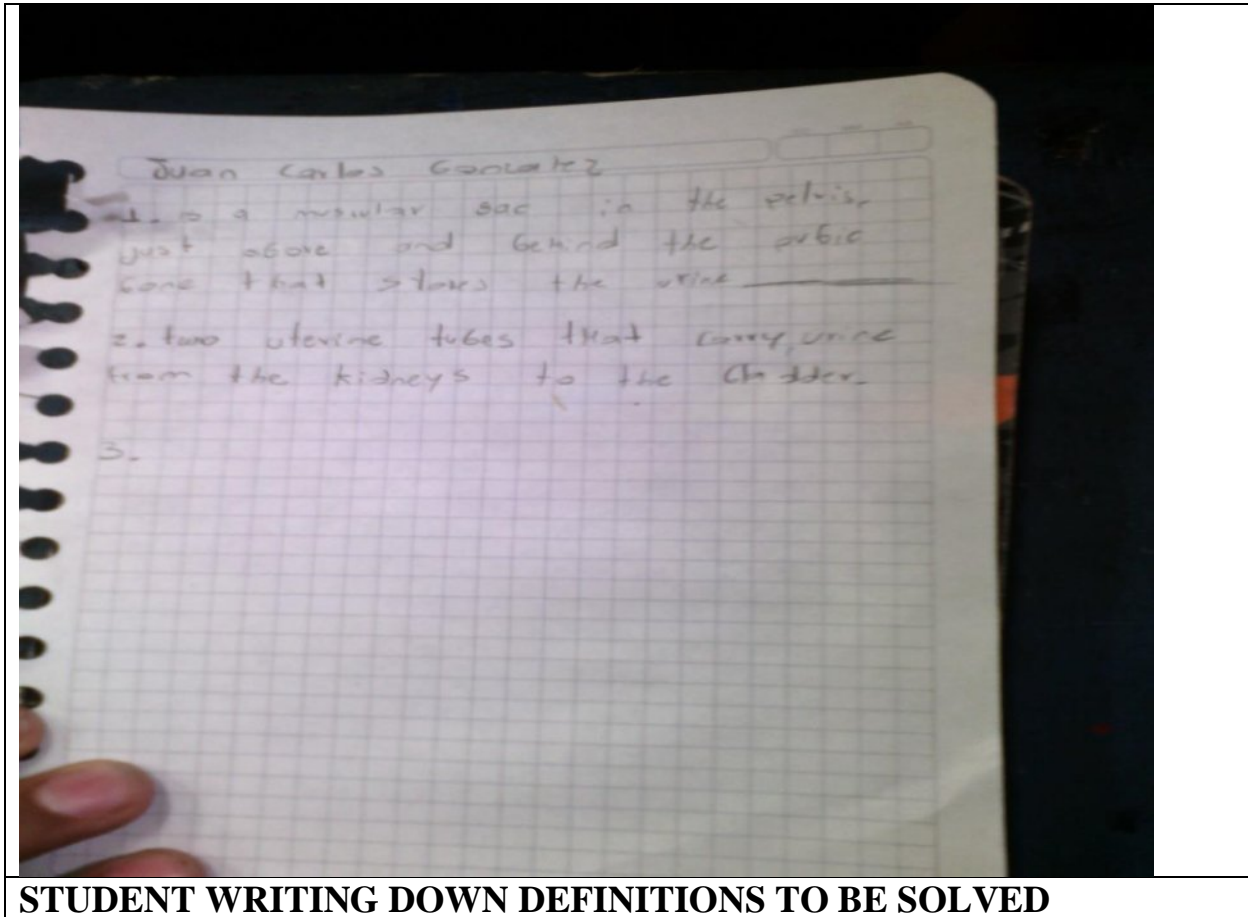
CRITERIA	YES	NO	NA	EVIDENCES
CLASS STAGES	X			The teacher started the class by showing a video related to the excretory system, then he asked some random students choosing them by a hot potatoes game
Does the student-teacher lead the learners into the topic of the lesson by a clear introduction?				

Does the student-teacher model the task/activities that learners will do during the practice stage?	X			The students got the idea of each activity since the teacher explained as many times as possible and also did some effective modeling. In certain moments like when explaining the matching task, the teacher asked for understanding using L1.
Does the student-teacher encourage the learners to recall what they learnt in previous lesson(s)?	X			The practitioner spends some time of the lesson asking the functions and recalling the names in English of the different organs of the excretory system.
Does the student-teacher give clear instructions for tasks/activities to the learners?	X			The teacher does not begin a task or activity without make sure that most of the students have understood the activity. In the matching activity that is supposed to be taken as assessment, the teacher explained first the unknown vocabulary of each definition.
Are the teaching resources well prepared and helpful?	X			The use of the video projector is a great tool for the development of the class. Students can know where the teacher is focused in and can follow the different procedures of the class. However; during the presentation of the video the speakers were not good at all since the classroom and the group is big and some students did not heard very well.
Does the student-teacher check learners' comprehension of the new topic of the lesson?	X			The way to check students' comprehension was implemented asking in general about the comprehension of the topic, but it was not observed the implementation of a strategy in order to check, in a meaningful way, the students' comprehension.
Do learners participate actively in the class?	X			A great amount of students participate during the class providing opinions and ideas about the topic.
Are ground rules clearly established?			X	This criteria was not relevant in this implementation due to different factors, such as the time management.
Are the stages well-paced?	X			There was an evident sequence of the activities that matched with what is on the lesson plan. Nevertheless; the times established for each activity was not exactly as stated.
Does the student-teacher manage time appropriately?	X			All the activities were carried out as planned in the time given by the institution.
Does the student-teacher provide enough time for the learners to	X			As the students were willing to participate during every activity, the teacher gave an important portion of time for these interventions.

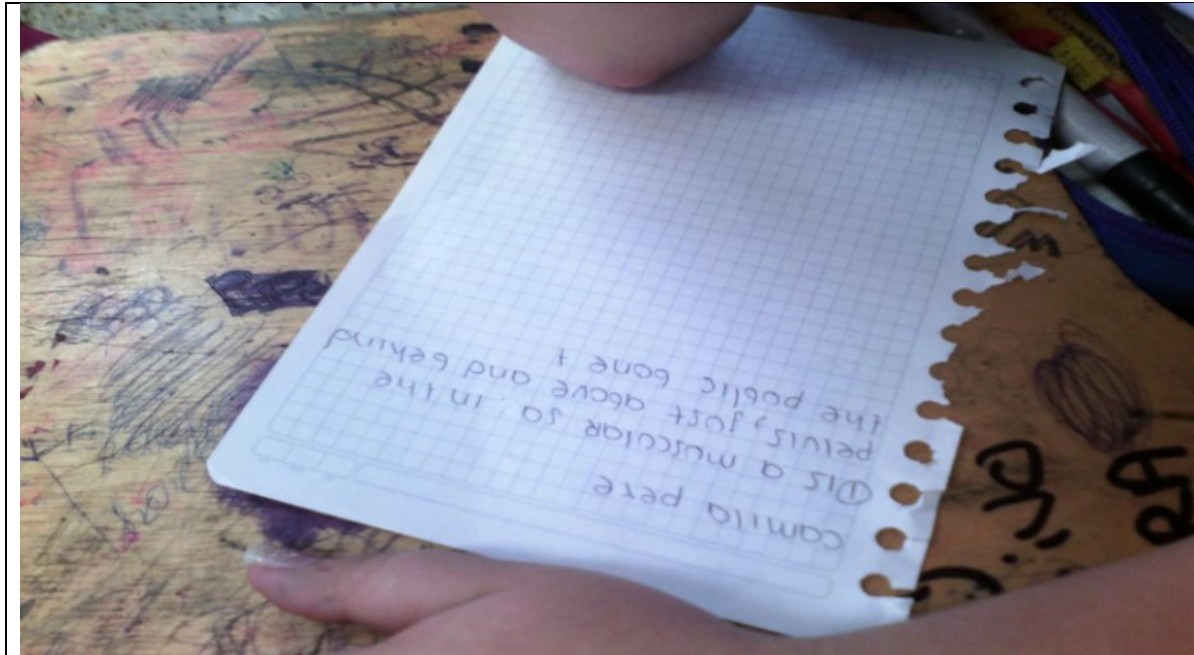


participate?				
Does the student teacher use different strategies to grouping learners?			X	There was not a specific activity where students were asked to group. The assessment task was done individually and students had to organize in rows.
Does the student-teacher manage disruptive behavior appropriately?	X			Generally, the students feel comfortable and enthusiastic about these lessons, however; in some moments some students start talking aloud. In these cases the teacher tries to pass around the classroom trying to get students attention back. The students respect this and are back to the lesson.
Are the standards to teach English appropriately included in the lesson planning?	X			The general as well as the specific standards were included in the lesson plan.
Do learners show progress in the language learning process?	X			This is evidenced when the practitioner makes a review from the topic the students are in their English class. It is easier for them to understand the practitioner and the different tasks that involves the content and the language.
Does the student-teacher provide a relaxing atmosphere to his class?	X			The practitioner respected allowed students' participation an opinions during the class.
Does the student-teacher use strategies to fulfill the learners needs based on their learning styles?	X			I was evidenced in the different kind of activities the skills that the students needed. In the greeting circle the kinesthetic abilities were evident. It is noticeable that the practitioner tries to make students move as much as possible. For example when he calls some students to write or complete some information in the board.
Do students react positively to the integration of biology content lessons in English?	X			They are reacting positively to the challenge faced. The fact that they can rely on their previously acquire knowledge in biology and English make participation and self-confidence easier.

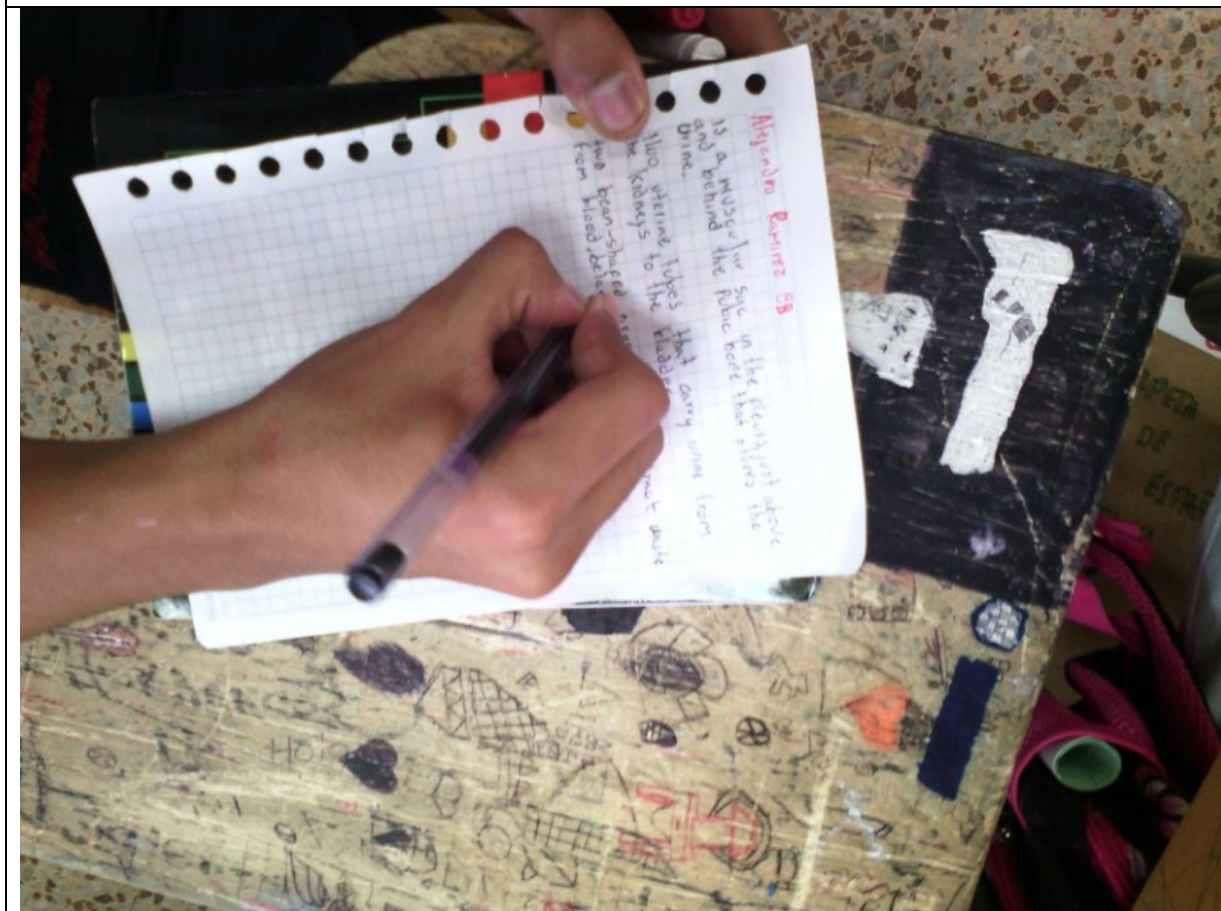
### 9.2.2. Evidence of the implementation 2.



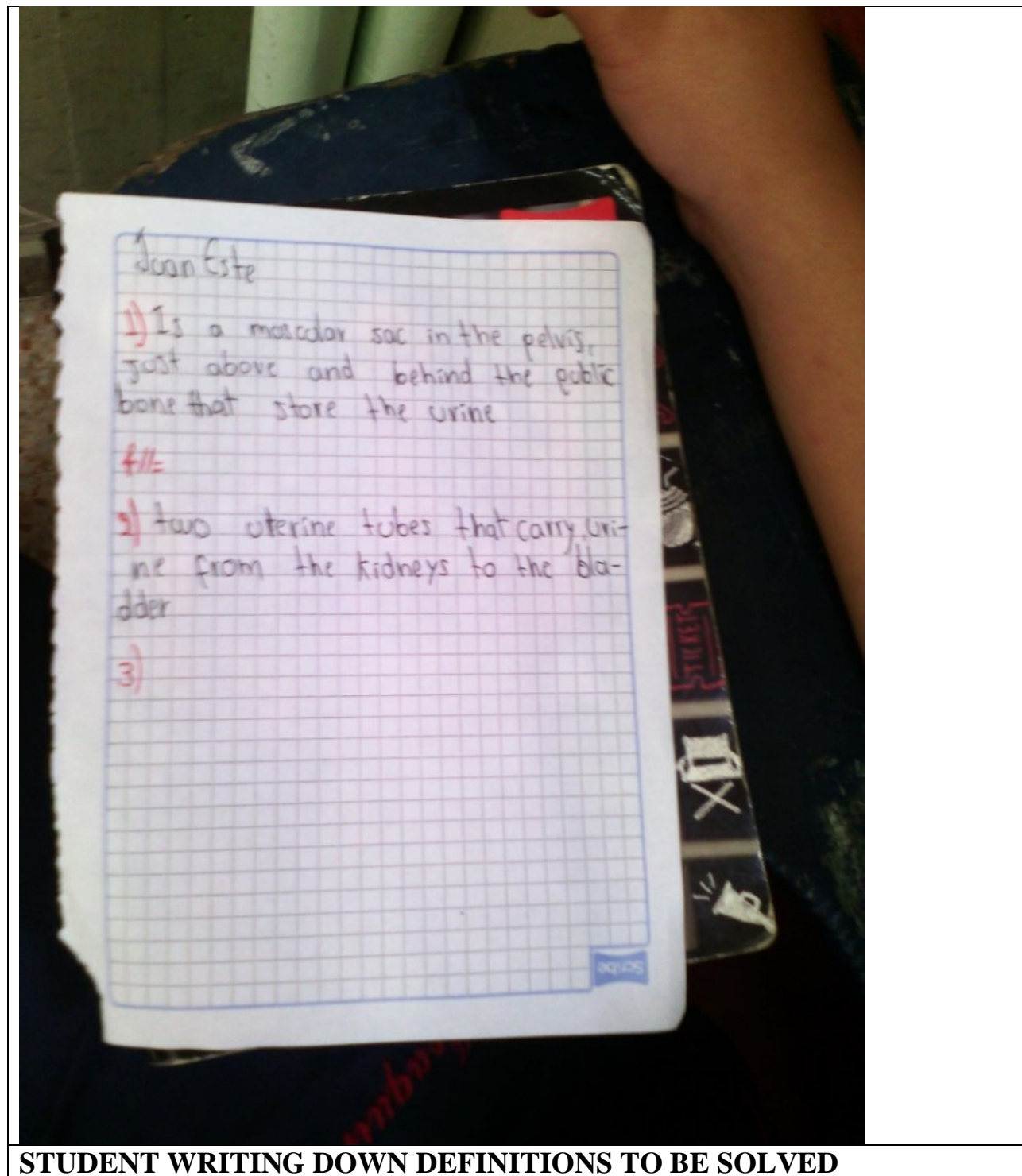
**STUDENT WRITING DOWN DEFINITIONS TO BE SOLVED**



STUDENT WRITING DOWN DEFINITIONS TO BE SOLVED



STUDENT WRITING DOWN DEFINITIONS TO BE SOLVED





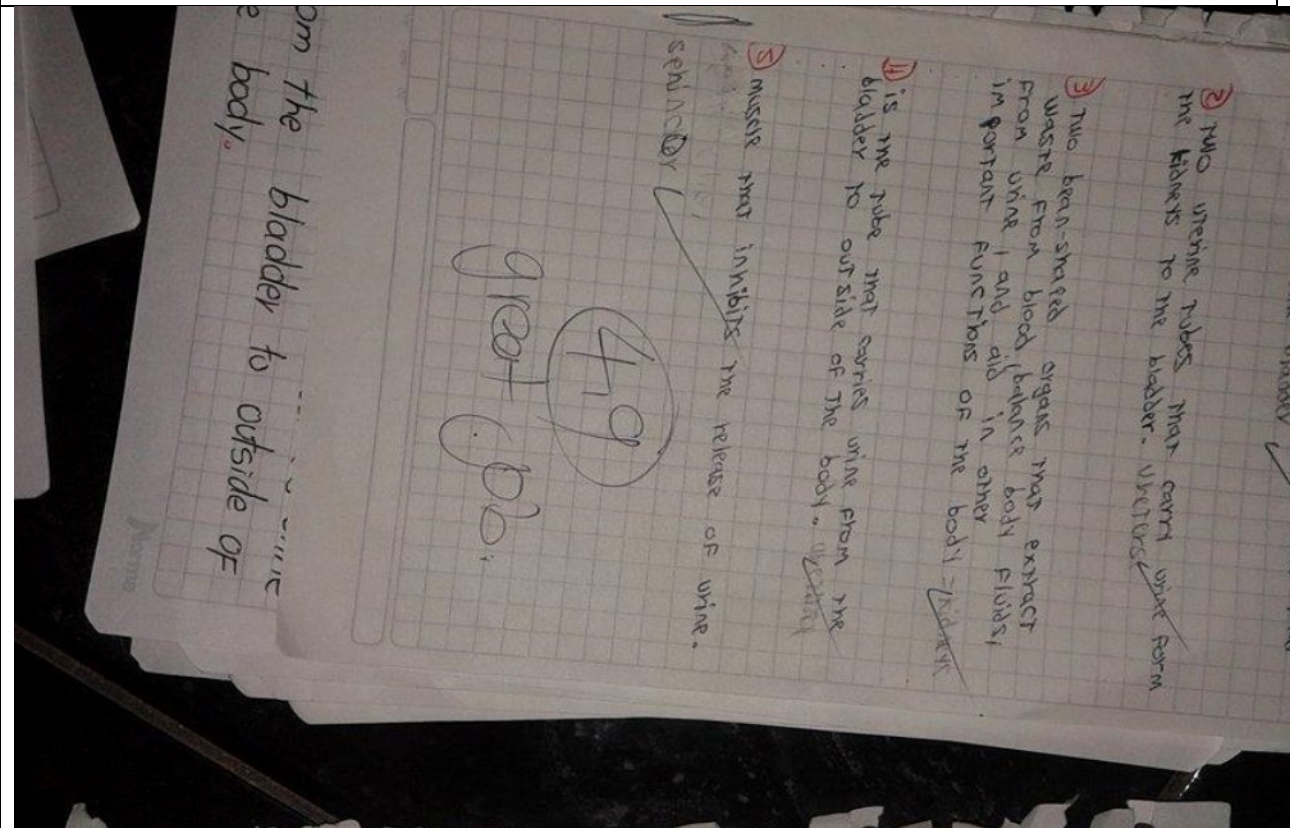
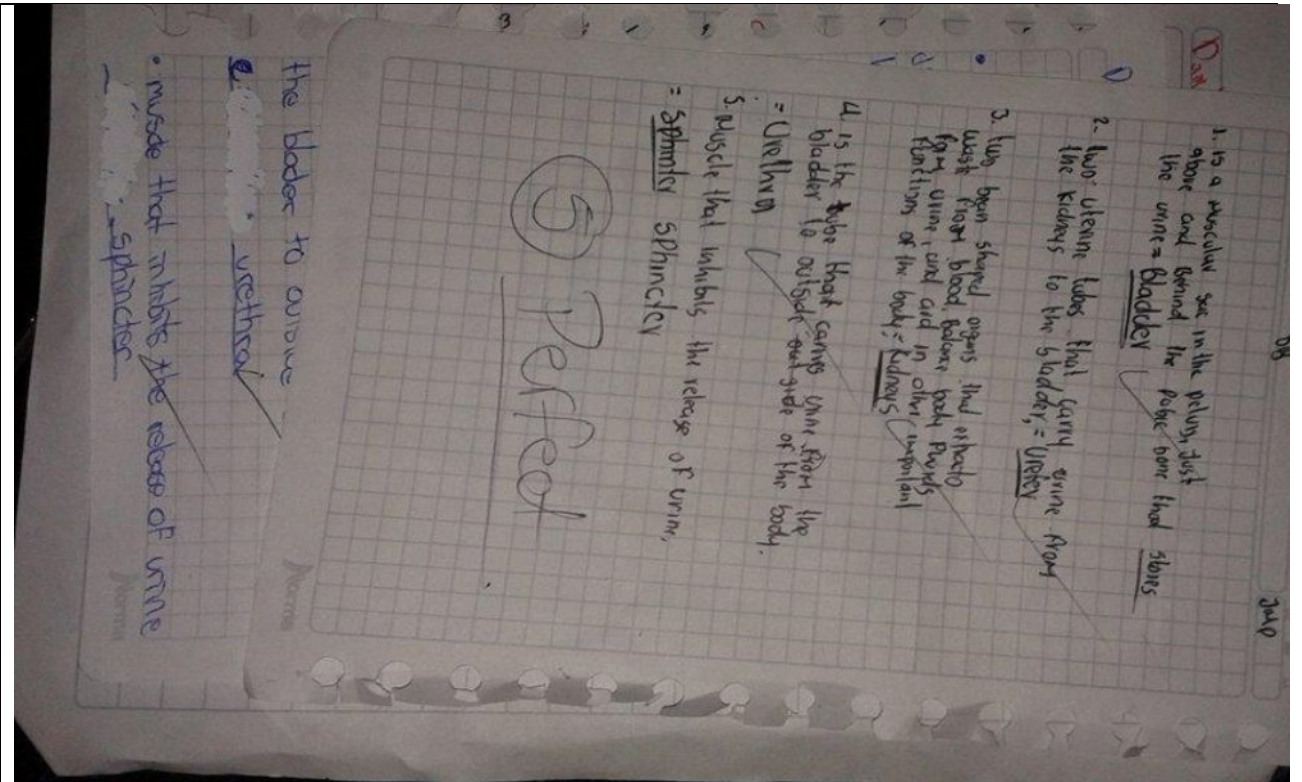


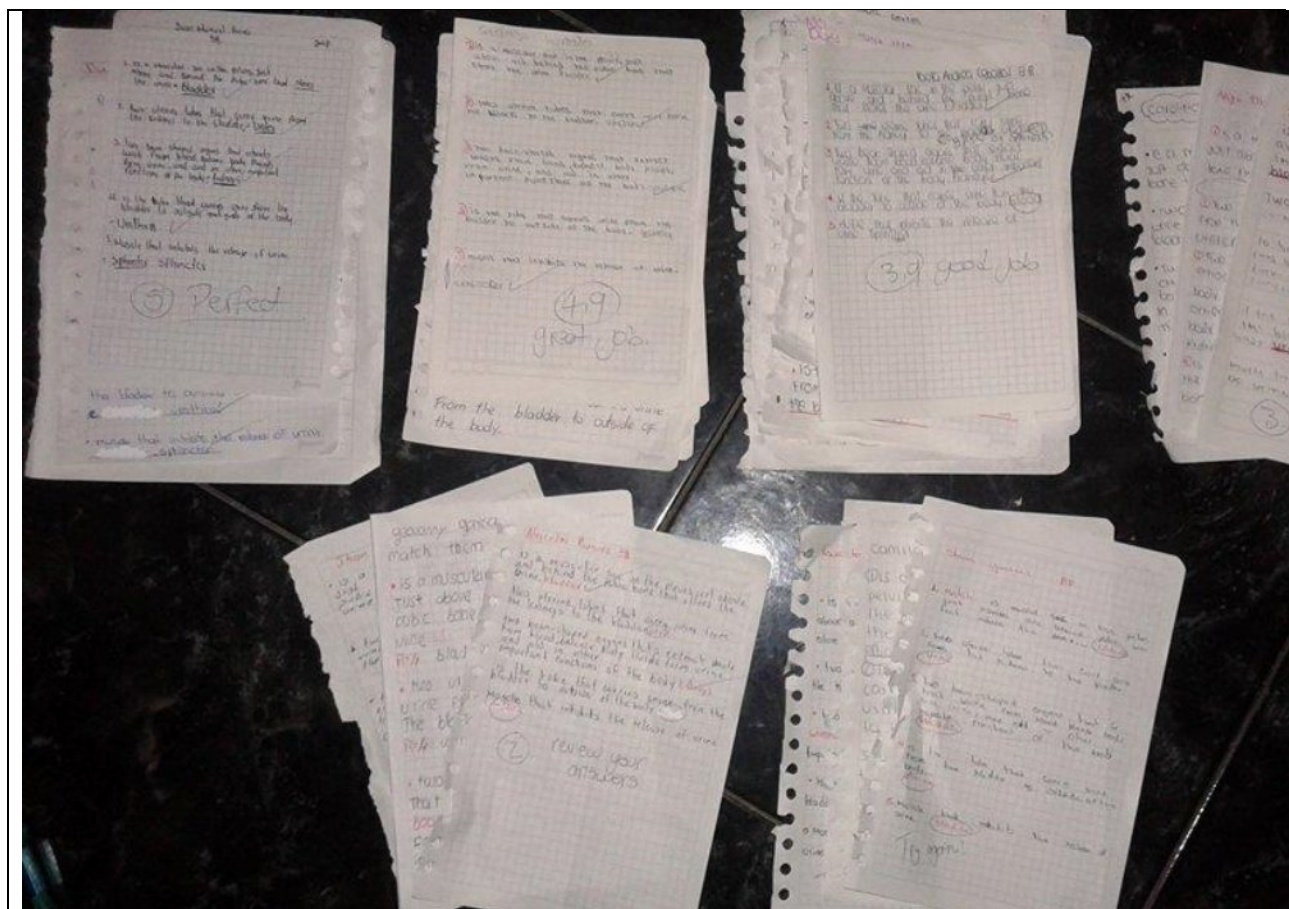
STUDENTS ORGANIZED IN ROWS WORKING ON INDIVIDUAL ASSESSMENT



STUDENTS WRITING DOWN FROM THE PROJECTION ON THE BOARD  
IN THE INDIVIDUAL ASSESSMENT







## RESULTS AND GRADES OF THE ASSESSMENT

*These artifacts serve as evidence gathered during the implementation number 2. This is connected with the lesson plan and the observation format in appendix number 9.2.*

### 9.3 Lesson 3. DNA and scientific thinking-reading aim.

**School:** San Joaquin School.

**Grade:** 8<sup>th</sup> A grade

**Class N°:** 3.

**Date:** Wednesday May 04<sup>th</sup> 2016

**Schedule:** 2:30 – 3:30 pm.

**Number of students:** 34 students

**Vocabulary for the first lesson CLIL Project:**

DNA, oxygen, cell, chromosome, human body, earth



### English and biology topics:

- Comparatives and superlatives
- DNA and Scientific facts

### Standards:

**General:** Leo y comprendo textos narrativos y descriptivos o narraciones y descripciones de diferentes fuentes sobre temas que me son familiares, y comprendo textos argumentativos cortos y sencillos.

### Specifics:

**Listening:** Infiero información específica a partir de un texto oral.

**Speaking:** Interactúo con mis compañeros y profesor para tomar decisiones sobre temas específicos que conozco.

**Reading:** Identifico relaciones de significado expresadas en textos sobre temas que me son familiares.

**Writing:** Contesto, en forma escrita, preguntas relacionadas con textos que he leído.

### Indicadores de logros:

- To recognize the general aspects that conform life.
- To get familiar with the concepts related general genetics and how it works.

**Learning aim:** At the end of the lesson students will be able to understand and identify the general elements that make life possible in earth and other elements in universe. They will be challenged to use reading comprehension strategies to look for specific information in a given text in order to answer and complete some questions.

### Assumed knowledge:

- Comparatives and superlatives
- Simple present tense
- Basic reading comprehension in L1 and L2

**Materials:** video projector, pc, board, flashcards, worksheet (fill in the blank activity), markers.

Procedure: ESA (Engage Study and Activate).

4 Cs

<b>Content:</b> DNA and Scientific knowledge
<b>Communication:</b> Reading comprehension to understand the information given, where

students are supposed to apply their previous knowledge and strategies learnt in their native language as well in the English course.
<b>Cognition:</b> Finding specific information to answer the questions given and relate it to their context.
<b>Culture:</b> Students identify and realize the main elements that compound the universe and life in earth

#### Activities:

Procedure	Activity	Anticipated problem and solution.
Warm-up activity  Video  2:30-2:45 3:00 – 3:15	T will project a video about the most general aspects of the universe and then the most inner aspects of a single human.  The video will be showed twice and students should write down on their notebooks two statements of the general view and two aspects of the inner aspects.	If the video does not work, the teacher will explain the vocabulary using the board.
Pre-reading 2:45-2:55 3:15 – 3:25	Ss will handle a set of worksheets where the first activity is a reading comprehension task.  First, T will guide Ss to do a pre-reading exercise where they have to find the paragraph which talks about the human body. Ss will have to highlight it.	If students do not comprehend the reading, the teacher model it reading aloud.
Reading 2:55 –3:15 pm 3:25 – 3:45	Students will have to read the text again to answer three different questions that goes from general to specific.	If students do not understand what the activity is about, the teacher will provide a prompt to them related to the reading.
Post reading activity 3:15 – 3:25 pm	Ss will have to complete some information based on some percentages previously stated in the text. Ss have to mention what those percentages refer to.	

#### 9.3.1 Observation format lesson 3.

**Class:** 3 the cell parts    **No of learners:** 31 students  
**Age of learners:** from 13 to 16  
**Date:** Wednesday, May 04<sup>th</sup>    **Length of class:** 52 minutes  
**Name of the school:** San Joaquin School

**Aim of the lesson:** At the end of the lesson students will be able to understand and identify the general elements that make life possible in earth and other elements in universe. They will be challenged to use reading comprehension strategies to look for specific information in a given text in order to answer and complete some questions.

**Observer's name:** Bryan Steven Parra Serna.

**Pre-service teacher observed:** Cristian David Bernal.

CRITERIA	YES	NO	NA	EVIDENCES
CLASS STAGES	X			The teacher introduced the topic and the new vocabulary "outer and inner" showing to students a video, and asking comprehensive questions related to it.
Does the student-teacher lead the learners into the topic of the lesson by a clear introduction?				
Does the student-teacher model the task/activities that learners will do during the practice stage?	X			During the video, the teacher modeled what students need to do providing 2 examples of the activity. Additionally, during the reading activity the teacher modeled to students what they need to do providing an example.
Does the student-teacher encourage the learners to recall what they learnt in previous lesson(s)?			X	There were not enough time to review the topic covered during the previous class due to the fact that the class started 5 minutes late. In this sense, T. modified the lesson plan, and did not implement the reviewing of the previous topic in order to achieve the learning aim expected.
Does the student-teacher give clear instructions for tasks/activities to the learners?	X			The teacher gave instructions providing examples, modeling the steps of the tasks and activities and asking for students comprehension related to the topic using a strategy, where the teacher asks to some students randomly to explain the steps of the activities. This explanation was provided in Spanish by 2 students.
Are the teaching resources well prepared and helpful?	X			The teacher used technology by showing to students some slides related to the topic through a video projector. Each of the slides followed a correct sequence in order to first, introduce the topic. Next, study the topic covered during the lesson. Finally, measure students' comprehension of the topic. Additionally, T. gave to students some copies with a reading, which was planned

				to be developed during the lesson.
Does the student-teacher check learners' comprehension of the new topic of the lesson?	X			During the connection between the English topic and the Biology topic, T. checked Ss. comprehension through the implementation of a brainstorming activity, where students provided as many ideas as possible about the topics.
Do learners participate actively in the class?	X			Students felt motivated to participate during the video, the brainstorming activity and the reading activity. They participate without teacher's elicitation. However, the participative students where most of the time the same people during the reading activity. It may be because of the miscomprehension of some of the students in order to do the activity.
Are ground rules clearly established?			X	During the lesson, the time for the implementation was not enough to stablish clearly the ground rules.
Are the stages well-paced?	X			During the lesson, there was evidenced of the ESA methodology, where the teacher directed the class step by step introducing, explaining and assessing students' comprehension related to the topic.
Does the student-teacher manage time appropriately?	X			The teacher measured the time for each activity in order to accomplish the learning aim expected. In this sense, the video, the fill in the blank activity, and the reading activity were presented, practice and developed satisfactorily.
Does the student-teacher provide enough time for the learners to participate?	X			The class allowed the bidirectional interaction between the teacher and the students. Specifically, during the brainstorming activity, students participate actively providing ideas about the topic without the teacher's elicitation.
Does the student teacher use different strategies to grouping learners?			X	During the lesson, there were not implemented any grouping technique due to the type of activities the teacher implemented.
Does the student-teacher manage disruptive behavior appropriately?			X	There were not presented any case of disruptive behavior to be managed during the lesson.
Are the standards to teach English appropriately included in the lesson planning?	X			The general as well as the specific standards are included in the lesson plan.

Do learners show progress in the language learning process?	X			Learners showed progress in terms of language proficiency, focused on descriptive adjectives, however, focused on comparative adjectives, students did not evidence a notorious progress. It was possible to observe this during the fill in the blank activity.
Does the student-teacher provide a relaxing atmosphere to his class?	X			As this was the third class, the teacher knew more the name of the students. In this sense, the rapport with students increases. Additionally, the teacher listened students' comments, allowed students participation, and prided them when they participate.
Does the student-teacher use strategies to fulfill the learners needs based on their learning styles?	X			During the class were evidence the use of activities that allowed the visual, aural and kinesthetic students' learning styles. This was evidenced through the video, the brainstorming activity, the fill in the blank activity on the board, and the reading activity.
Do students react positively to the integration of biology content lessons in English?	X			As this project is focused on the reviewing of the biology content lessons, Ss. have already a background knowledge about the topics, which facilitate students' comprehension of the topics. Therefore, during the implementation a great amount of students enjoy the class participating and discussing about the topics. Specifically, it was evidence during the brainstorming and reading activities.
Do students filled the student-teacher's expectations focused on the learners' language proficiency?	x			Students filled the student-teacher's expectation in terms of knowledge about the biology content, as well as in the knowledge of the English topic. However, Ss. had some mistakes related to the English topic "comparatives", which were evidenced in the fill in the blank activity implemented on the board. In this sense, the students did not exceeded the implementer's expectation.

### 9.3.2. Evidence of the implementation 3.

SCIENCE


one stop clll

1 Juan Jose Latorre 8B

### WHAT IS IT ALL MADE OF?

At first, after the 'big bang', there was only hydrogen. The hydrogen burned in a fusion reaction and made helium. In stars, hydrogen and helium burn, and when a star is old it starts to make other elements.

More than 90% of the atoms in the universe are still hydrogen atoms. In the solar system, however, where 99% of all the atoms are in the sun, helium is the most common element. The Earth's atmosphere is made up of 78.1 % nitrogen, 20.9%



mostly aluminium, iron, calcium, sodium, potassium and magnesium.

*On average, nearly two thirds of the human body is water. Our cells are made from complex organic molecules such as proteins and lipids, but if we look only at the atoms, they are present in these proportions:*

- hydrogen 63%
- oxygen 25.5%
- carbon 9.5%
- nitrogen 1.4%
- calcium 0.31%
- phosphorus 0.22%

There are also smaller amounts of many other elements.

#### READING

**Before you read**

1 Look at Effective reading.

**EFFECTIVE READING**

When you know what information you need, you can look for it without reading through all of the text.

2 Look quickly and find where the text talks about the human body.

**While you read**

3 What is the most common element in the solar system? In the Earth's atmosphere? In your body?

**After you read**

4 What do these percentages represent?

0.31% The proportion of calcium atoms in the human body

1 0.9% \_\_\_\_\_

2 99% \_\_\_\_\_



3 nearly 47% \_\_\_\_\_

4 0.035% \_\_\_\_\_

5 63% \_\_\_\_\_

#### LISTENING

5 Look at the diagrams and listen.

DNA

*This page has been downloaded from www.onestopccll.com*

*Written by Chris Thomas and Sandra Morton © Copyright Macmillan Education Ltd 2006*

4.1. The proportion of oxygen atoms in the human atmosphere

2. The proportion of atoms in the human solar system

3. The proportion of oxygen in the human earth atmosphere

4. The proportion of carbon dioxide in the human atmosphere

5. The proportion of hydrogen in the human body

## RESULTS AND GRADES OF THE ASSESSMENT FOCUSED ON THE CELL PARTS AND FUNCTIONS.

These artifacts serve as evidence gathered during the implementation number 3. This is connected with the lesson plan and the observation format in appendix number 9.3.

### 9.4 Lesson 4. DNA and scientific thinking-writing/reading aim

**School: San Joaquin School.**

**Grade: 8<sup>th</sup> B grade**

**Class N°: 4.**

**Date: Wednesday May 18<sup>th</sup> 2016**

**Schedule: 2:30 – 3:15 pm.**

**Number of students: 34 students**

**Vocabulary for the CLIL lesson:**

DNA, oxygen, cell, chromosome, human body, earth

**English and biology topics:**

- Comparatives and superlatives
- DNA and Scientific facts

**Standards:**

**General:** Leo y comprendo textos narrativos y descriptivos o narraciones y descripciones de diferentes fuentes sobre temas que me son familiares, y comprendo textos argumentativos cortos y sencillos.

**Specifics:**

**Listening:** Infiero información específica a partir de un texto oral.

**Speaking:** Interactúo con mis compañeros y profesor para tomar decisiones sobre temas específicos que conozco.

**Reading:** Identifico relaciones de significado expresadas en textos sobre temas que me son familiares.

**Writing:** Contesto, en forma escrita, preguntas relacionadas con textos que he leído.

**Indicadores de logros:**

- To recognize the general aspects that conform life.
- To get familiar with the concepts related general genetics and how it works.
- To organize a scientific text divided by headings and understand the content of each paragraph

**Learning aim:** At the end of the lesson students will be able to understand and categorize a scientific text based on different categories and then organize and write a similar text using the skills learnt. To achieve this, students will take advantage of their reading and writing strategies relying even on their use of L1.

**Assumed knowledge:**

- Comparatives and superlatives
- Simple present tense
- Basic writing and reading comprehension in L1 and L2

**Materials:** video projector, pc, board, flashcards, worksheet (fill in the blank activity), markers.

Procedure: ESA (Engage Study and Activate).

4 Cs

<b><u>Content:</u></b> DNA and Scientific knowledge
<b><u>Communication:</u></b> Reading comprehension to understand and categorize the information given. Then the student will be able to write up a scientific experiment based on different headings.
<b><u>Cognition:</u></b> To realize that a formal paper should be divided with headings and that those contain specific information.
<b><u>Culture:</u></b> Students identify the scientific reactions that common elements of their daily life can produce if are mixed. They realize that can be part of a scientific process even in their homes.

Activities:

Procedure	Activity	Anticipated problem and solution.
Warm-up activity  Chinese whisper  2:30-2:45	T will divide the class into three groups. He will explain the aim of the activity and will check for understanding. Then, T will call the first student from each line to tell them the sentence they have to keep whispering to their classmates. At the end the last student from each line will have to go to the board to write the sentence heard.	Ss lack of participation or even the first student does not understand the initial sentence.  T will encourage Ss to participate and will make sure that the very first students understand the sentence.
Pre-writing  Checking unknown	T will project the worksheet Ss have and will focus the writing task to be developed. He will explain the headings that are used to structure a	Ss do not understand what the headings are about or do not understand the content on each paragraph.



vocabulary - study 2:45-2:50	scientific experiment. Having these words clear, T will project an example of a paper structured by the use of headings.	T will make sure that Ss understand specially the headings by comparing some task that they might have done in their L1 classes. For the content of the paragraphs T will explain some key words on each that might lead Ss for a general understanding of each part.
Reading-writing 2:50-3:00	T will ask Ss to write the correct heading to each paragraph according to its content. For this, Ss will have to read and understand the content of each paragraph. T will be monitoring the understanding.	
Writing 3:00-3:15	The following task involves some statements related to a scientific experiment similar to the previous one but with less information. Ss will have to use the skill previously learnt to organize and complete each paragraph of the experiment.	Ss do not differentiate the parts of the text given in order to divide them into the sections previously seen.  T will guide Ss through the most evident elements of the new task (equipment, method, etc) Then, T will elicit Ss to start writing something like the previous exercise following the same structure.

#### 9.4.1 Observation format lesson 4.

**Class:** 4    **No of learners:** 25 students

**Age of learners:** from 13 to 16

**Date:** Wednesday, May 18<sup>th</sup>    **Length of class:** 45 minutes

**Name of the school:** San Joaquin School

**Observer's name:** Bryan Steven Parra Serna.

**Pre-service teacher observed:** Cristian David Bernal.

CRITERIA	YES	NO	NA	EVIDENCES
CLASS STAGES	x			The teacher introduced the topic showing the model of the thesis he is conducting in order to explain the term structure. Additionally, the practitioner showed a model
Does the student-teacher				

lead the learners into the topic of the lesson by a clear introduction?				of a structure during a reading activity in order to explain the meaning of this term.
Does the student-teacher model the task/activities that learners will do during the practice stage?	x			It was evidenced during the study stage, where the practitioner provided examples of structure organization focused on a text. The teacher model the way to organize some paragraphs in order to form a coherent text.
Does the student-teacher encourage the learners to recall what they learnt in previous lesson(s)?	X			The practitioner reviewed the English topic covered during the previous class, which was focused on the comparatives, implementing a Chinese whisper activity.
Does the student-teacher give clear instructions for tasks/activities to the learners?	X			During the reading activity, the practitioner explained first, the unknown vocabulary. Then, he recalled to students to implement the strategy used in the reading activity developed the previous class (scanning). Finally, the practitioner served as a model imitating the experiment in the reading.
Are the teaching resources well prepared and helpful?	X			The class was presented using the video projector, where students observe the reading activity. This was a great tool during the class. However, there were not enough illustrations for the reading activity, which caused that some students were lost while reading the experiment.
Does the student-teacher check learners' comprehension of the new topic of the lesson?	X			The way to check students' comprehension was implemented asking in general about the comprehension of the topic, but it was not observed the implementation of a strategy in order to check, in a meaningful way, the students' comprehension.
Do learners participate actively in the class?	X			A great amount of students participate during the class providing opinions and ideas about the topic, specifically in the brainstorming activity.
Are ground rules clearly established?			X	This criteria was not relevant in this implementation due to different factors, such as the time management.
Are the stages well-paced?	X			As the time distributed in the lesson plan, was not the time implemented during the lesson, the lesson plan was modify. For this reason, the assessment stage was not achieved. Nonetheless, the engagement and study stages were presented during the lesson, and they followed a coherent sequence. First introducing the topic, to then study it through the development of a reading activity.

Does the student-teacher manage time appropriately?		X		The time management was not managed appropriately due to external factors. The main problem was the reduction of the time for the implementation since it was just 45 minutes.
Does the student-teacher provide enough time for the learners to participate?	X			Students were allowed to participate during a great portion of the class. It was evidenced during the Chinese whisper activity, where students reviewed the topic covered during the previous class; the brainstorming activity, where students provided as many ideas as possible about the experiment, and the reading activity, where answered some scanning questions.
Does the student teacher use different strategies to grouping learners?		X		Students were asked to group by their own in groups of 4. It was not implemented during the lesson any grouping strategy due to time management issues.
Does the student-teacher manage disruptive behavior appropriately?	X			This was evidenced during the explanation of the reading activity. One of the students was speaking aloud with another student, and the practitioner managed the situation saying the name of Ss. aloud, and using his facial expression to let the student know that he was interrupting the development of the class.
Are the standards to teach English appropriately included in the lesson planning?	X			The general as well as the specific standards are included in the lesson plan.
Do learners show progress in the language learning process?	X			Learners showed progress in terms of language proficiency, focused on descriptive adjectives, however, focused on comparative adjectives, students did not evidence a notorious progress. It was possible to observe this during the fill in the blank activity.
Does the student-teacher provide a relaxing atmosphere to his class?	X			The practitioner respected allowed students' participation an opinions during the class.
Does the student-teacher use strategies to fulfill the learners needs based on their learning styles?	x			It was evidenced the use of the 3 learning styles (visual, aural and kinesthetic) during the lesson during each of the class stages (Engage, Study and Activate). The kinesthetic learning style was evidenced in the development of a Chinese whisper activity during the Engage stage while the visual and aural learning styles were evidenced during the reading and writing activity.
Do students react positively to the	x			As this project is focused on the reviewing of the biology content lessons, Ss. have already a background

integration of biology content lessons in English?				knowledge about the topics, which facilitate students' comprehension of the topics. Therefore, during the implementation a great amount of students enjoy the class participating and discussing about the topics. Specifically, it was evidence during the brainstorming and reading activities.
Do students filled the student-teacher's expectations focused on the learners' language proficiency?		x		It was not possible to fill the expectations due to the fact that the length of the class was 45 minutes, what reduce the time to accomplish at all the learning aim expected. In this sense, students interact and learn the language expected, but it was not possible to measure their production.

## 9.4.2. Evidence of the implementation 4.

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SCIENCE

### VOCABULARY BUILDER

**1 Find and circle these words.**

- bicarbonate ☒
- nucleus ☒
- chromosome ☒
- organelles ☒
- effervesce ☒
- phosphorus ☒
- experiment ☒
- proportion ☒
- gene ☒
- reaction ☒
- molecule ☒
- solar system ☒
- iron ☒
- scales ☒
- nitrogen ☒
- write up ☒

G	P	P	R	O	P	O	R	T	I	O	N	S	S
E	L	E	Q	D	R	E	A	C	T	I	O	N	
N	N	I	T	R	O	G	E	N	W	R	L	K	
T	E	F	E	R	V	E	S	C	E	O	A	O	
S	N	U	C	L	E	U	S	H	V	N	R	R	
O	P	H	O	S	P	H	O	R	I	S	S	G	
A	A	K	W	P	Z	C	J	O	J	U	Y	A	
L	T	F	R	E	J	M	O	M	I	R	S	N	
E	N	E	T	C	A	R	B	O	N	A	T	E	
S	S	O	T	U	D	Y	B	S	H	L	E	L	
M	O	L	E	C	U	L	E	O	C	N	M	L	
M	G	R	U	P	T	Q	X	M	H	A	G	E	
F	E	X	P	E	R	I	M	E	N	T	B	S	

**Now put the words into these sentences.**

You use scales to weigh things.

1. A gene is a part of a chromosome which your cells can "read" to make proteins.

2. When you add sodium acetate to vinegar, you can see it effervesce.

3. The nucleus of a molecule atoms in the human body is 0.22%.

4. You always follow the same model when you experiment.

5. In a cell's cytoplasm, there is a organelle and several iron.

6. A nitrogen is very small, but the write up is very large.

7. iron is a common metal, and chromosome is a common gas.

8. If you put an acid together with a base, there is a chemical reaction.

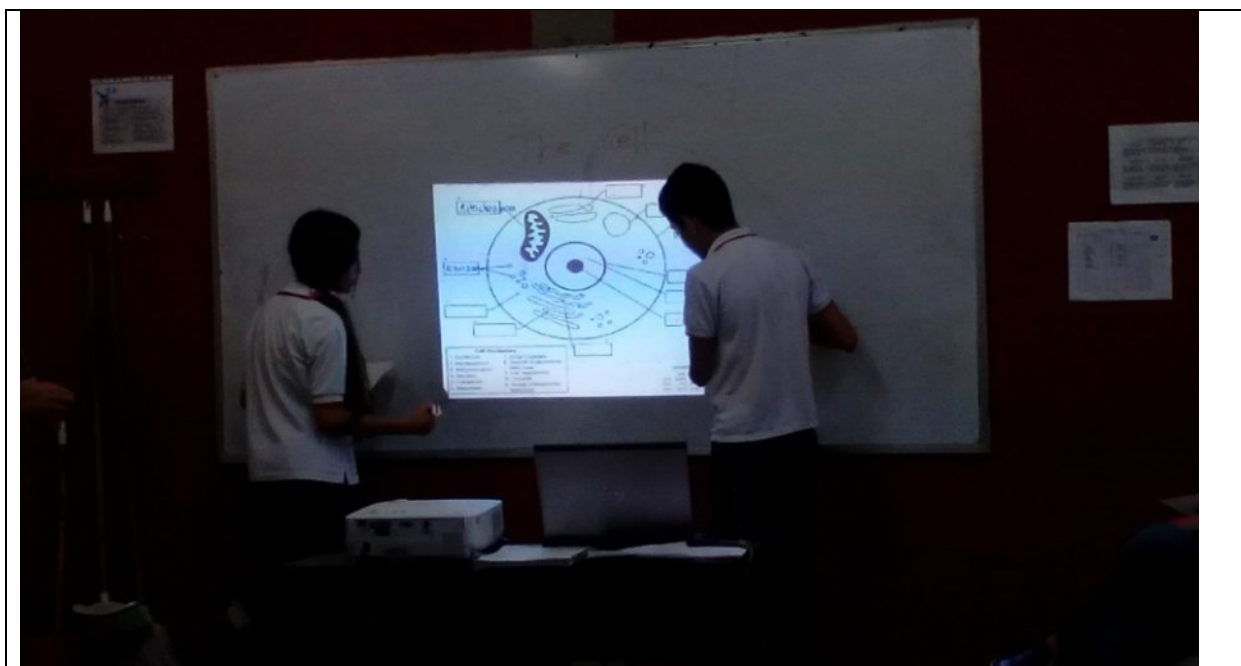
**3 Match the English words to their definitions.**

a nucleus b effervesce c phosphorus d gene  
e molecule f iron g scales h nitrogen

- 1 A chemical element that starts to burn by itself when air touches it. = a
- 2 A gas with no colour or smell that exists in the air we breathe. = h
- 3 To produce a lot of small bubbles of air or gas. = b
- 4 This is something we use to weigh people or things. = g
- 5 A very small group of atoms. = d
- 6 The central part of an atom. = a
- 7 A hard metal that is a common element. = f
- 8 A section of DNA on a chromosome that is responsible for a particular characteristic. = e

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ASSESSING STUDENTS' READING COMPREHENSION.



#### **PRACTITIONER COMPLETING A MATCHING ACTIVITY.**

*These artifacts serve as evidence gathered during the implementation number 4. This is connected with the lesson plan and the observation format in appendix number 9.4.*

### **9.5 Lesson 5. DNA and scientific thinking-speaking/reading aim**

**School: San Joaquin School.**

**Grade: 8<sup>th</sup> B grade**

**Class N°: 5.**

**Date: Wednesday May 25<sup>th</sup> 2016**

**Schedule: 2:30 – 3:35 pm.**

**Number of students: 34 students**

**Vocabulary for the CLIL lesson:**

DNA, oxygen, cell, chromosome, human body, earth

**English and biology topics:**

- Comparatives and superlatives

- DNA and Scientific facts

**Standards:**

**General:** Leo y comprendo textos narrativos y descriptivos o narraciones y descripciones de diferentes fuentes sobre temas que me son familiares, y comprendo textos argumentativos cortos y sencillos.

**Specifics:**

**Listening:** Infiero información específica a partir de un texto oral.

**Speaking:** Interactúo con mis compañeros y profesor para tomar decisiones sobre temas específicos que conozco.

**Reading:** Identifico relaciones de significado expresadas en textos sobre temas que me son familiares.

**Writing:** Contesto, en forma escrita, preguntas relacionadas con textos que he leído.

**Indicadores de logros:**

- To recognize the general aspects that conform life.
- To get familiar with the concepts related general genetics and how it works.
- To organize a scientific text divided by headings and understand the content of each paragraph

**Learning aim:** At the end of the lesson students will be able to understand and categorize a scientific text based on different categories and then organize and write a similar text using the skills learnt. To achieve this, students will take advantage of their reading and writing strategies relying even on their use of L1.

**Assumed knowledge:**

- Comparatives and superlatives
- Simple present tense
- Basic writing and reading comprehension in L1 and L2

**Materials:** video projector, pc, board, flashcards, worksheet (fill in the blank activity), markers.

Procedure: ESA (Engage Study and Activate).

4 Cs

<p><b><u>Content:</u></b> DNA and Scientific knowledge</p>
<p><b><u>Communication:</u></b> Speaking skills to give information in order to achieve a common</p>

goal.
<b><u>Cognition:</u></b> To identify and organize the parts of speech and understanding not just the grammatical pattern but the message and information requested in the utterances.
<b><u>Culture:</u></b> Students goes deeper in the understanding on their bodies as well as they learn facts about different places and develop communicative skills in L2.

Activities:

Procedure	Activity	Anticipated problem and solution.
Warm-up activity  Vocabulary snake  2:30-2:45	T will divide the class into three groups. He will explain the aim of the activity and will check for understanding. The activity begins with one student from each group going to the board to continue writing a new word using the last letter of the last word written. The winner team is the one that had all the participants writing a word.	Ss lack of participation or low self-confidence might affect the development of the activity.  T motivation and maybe a prize for the winner team.
Writing  Study  2:45-2:55	T will project a chart with some adjectives. There will be two more columns with some prompts regarding the comparative and superlative form of those adjectives. Ss will have to complete the chart using their previous knowledge and T explanation.	Ss are taking too much time to complete the chart.  T will assume that having explained the first examples and Ss practiced some others. By completing himself the chart Ss already know the comparative and superlative basic form.
Reading-writing  2:55-3:00	T will project an image of a cell with some labels of its parts to be filled. Ss, using their previous knowledge, will have to complete the parts of the cell and write them down on their notebooks.	Ss do not recognize the parts labeled.  Ss might relay on their previous notes in the biology notebook.
Writing  3:00-3:20	T will project some disorganized sentences in interrogative form. Ss will have to organize them and answer the questions. These are related to the different components of the cell and the	Ss do not understand nor how to organize the sentence. Ss might also get confused organizing the parts of the speech.



	sentences are based on the use of superlatives.	T will do the first example and will check if Ss identify and recognize the basic formulation of sentences.
Speaking 3:20-3:35	Ss will form couples and T will give each member a paper (A or B) that contains information about a city (London or Tallinn) Ss will have to read the facts and information about the city they have (each member of the couple has a different paper) and then they will have to answer some questions comparing both places. To achieve this, Ss will have to speak to each other in order to share information about each place.	Ss start showing the papers to their partners to complete the questions and do not do the speaking request.  T will be monitoring the groups in order they are doing the task as told.

### 9.5.1 Observations format lesson 5.

**Class:** 5 comparatives / the cell parts      **No of learners:** 29 students

**Age of learners:** from 13 to 16

**Date:** Wednesday, May 25th      **Length of class:** 75 minutes

**Name of the school:** San Joaquin School

**Aim of the lesson:** At the end of the lesson students will be able to understand and categorize a scientific text based on different categories and then organize and write a similar text using the skills learnt. To achieve this, students will take advantage of their reading and writing strategies relying even on their use of L1.

**Observer's name:** Bryan Steven Parra Serna.

**Pre-service teacher observed:** Cristian David Bernal.

CRITERIA	YES	NO	NA	EVIDENCES
CLASS STAGES	X			The teacher introduces the topic by explaining to students the way to complete a chart focused on the English topic "comparatives and superlatives". T. explain the uses of both types of adjectives, and then, Ss. complete the chart participating on the board.
Does the student-teacher lead the learners into the topic of the lesson by a clear introduction?				
Does the student-teacher model the task/activities that learners will do	X			During 3 of the activities implemented in the lesson, the fill in the chart, unscramble, and speaking activities, the teacher modeled those activities to students in order to develop them correctly. Additionally, the teacher

during the practice stage?				provided feedback in order to correct students' mistakes. Moreover, during the speaking activity, the teacher modeled the activity with a student.
Does the student-teacher encourage the learners to recall what they learnt in previous lesson(s)?	X			It was evidenced in the development of the fill in the chart. The practitioner recalled the topic related to comparatives and superlatives, which was covered during the previous class.
Does the student-teacher give clear instructions for tasks/activities to the learners?	X			It was evidenced at the moment of providing the explanation during the wrap up activity, where T teacher provided instructions modeling the activity with a student. However, during the matching/fill in the blank activity, the implementer did not explain the vocabulary related to the Biology topic, and the teacher asks to students to do the activity without providing any example.
Are the teaching resources well prepared and helpful?	X			Through the use of the video projector, it was possible to introduce, and to model the activities implemented during the lesson.
Does the student-teacher check learners' comprehension of the new topic of the lesson?		X		During the class, it was not evidenced the use of any strategy to check learners' comprehension. The activities where explain, but their comprehension was not checked.
Do learners participate actively in the class?	X			As most of the activities allowed students participation, students participate actively during the class. It was evidence during 3 different activities into the class: the fill in the chart activity, the unscramble activity and the speaking activity during the wrap-up stage.
Are ground rules clearly established?			X	Not applied.
Are the stages well-paced?	X			The development of the class followed a coherent sequence first, activating students' prior knowledge. Then, introducing the new topic. Next, studying the new topic, and finally, measuring students' comprehension through a speaking/writing activity.
Does the student-teacher manage time appropriately?	x			As it was possible to accomplish the learning aim expected, the time management was measure appropriately. Nonetheless, some activities spent more than the time expected in the lesson plan.
Does the student-teacher provide enough time for	X			It was evidenced during the 3 stages presented in the class (Engage, Study and Activate). During the

the learners to participate?				engagement part, it was evidenced through the development of a snake activity. During the study stage, it was evidenced through the development of a fill in the chart activity. Finally, during the Activate stage, it was evidenced through the interaction in pairs in the speaking/writing activity.
Does the student teacher use different strategies to grouping learners?		X		The use of grouping techniques was not evidenced during the lesson. The group was divided in pairs without the implementation of any grouping technique.
Does the student-teacher manage disruptive behavior appropriately?			X	Not applied.
Are the standards to teach English appropriately included in the lesson planning?	X			The general as well as the specific standards are included in the lesson plan.
Do learners show progress in the language learning process?	X			It was evidenced during the unscramble activity, where students monitor and correct some mistakes by themselves. Additionally, during the fill in the chart activity, students complete the chart using the correct form of the comparative adjectives.
Does the student-teacher provide a relaxing atmosphere to his class?	X			It was evidenced during the spaces for students to participate and discuss the topics. The teacher allowed students to participate actively, eliciting them to do it by postulating activities that involved the critical thinking.
Does the student-teacher use strategies to fulfill the learners needs based on their learning styles?	X			During the class were evidence the use of activities that allowed the visual, aural and kinesthetic students' learning styles. The kinesthetic learning style was evidenced during the warm-up activity. The aural learning style was evidenced during the speaking activity. Finally, the visual learning style was evidenced during the unscramble and fill in the chart activities.
Do students react positively to the integration of biology content lessons in English?	X			Students showed a positive reaction to the implementation of the class participating and providing opinions during the whole class about the topics "comparatives and superlatives related to the cell parts".
Do students filled the student-teacher's expectations focused on the learners' language	X			Students exceeded the researchers' expectations in terms of the biology content knowledge and superlatives, since students understood and provided ideas about the specific characteristics of some of the cell parts.

proficiency?				However, related to the topic comparatives, the researchers' expectations were not exceeded.
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### 9.5.2. Evidence of the implementation 5.



#### **ASSESSING STUDENTS THROUGH A FINAL TEST.**

*These artifacts serve as evidence gathered during the implementation number 5. This is connected with the lesson plan and the observation format in appendix number 9.5.*

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